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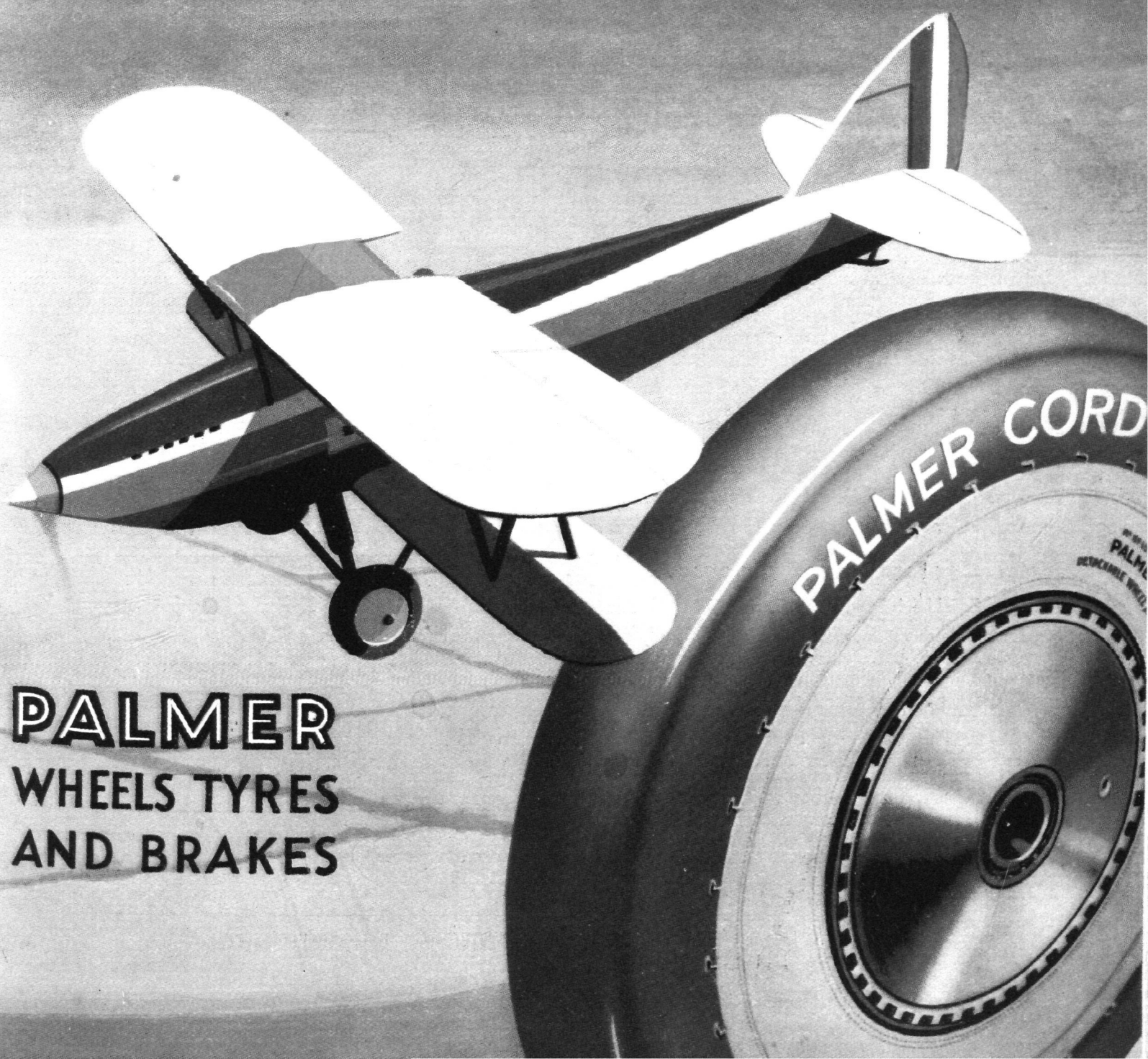
FLIGHT

The
AIRCRAFT ENGINEER
AND AIRSHIPS

OFFICIAL ORGAN OF THE ROYAL AERO CLUB

No. 1294
Vol. XXV
No. 41

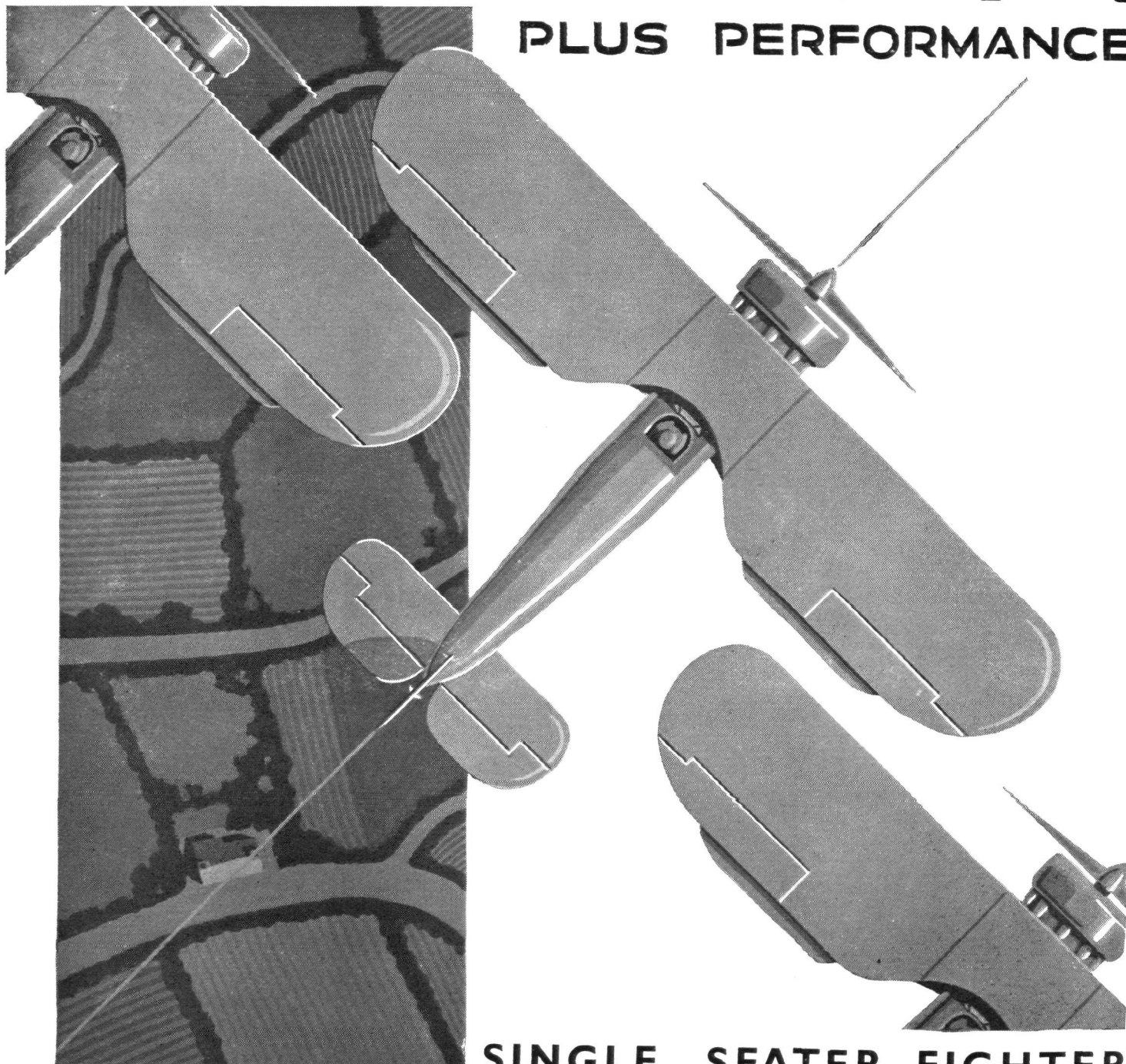
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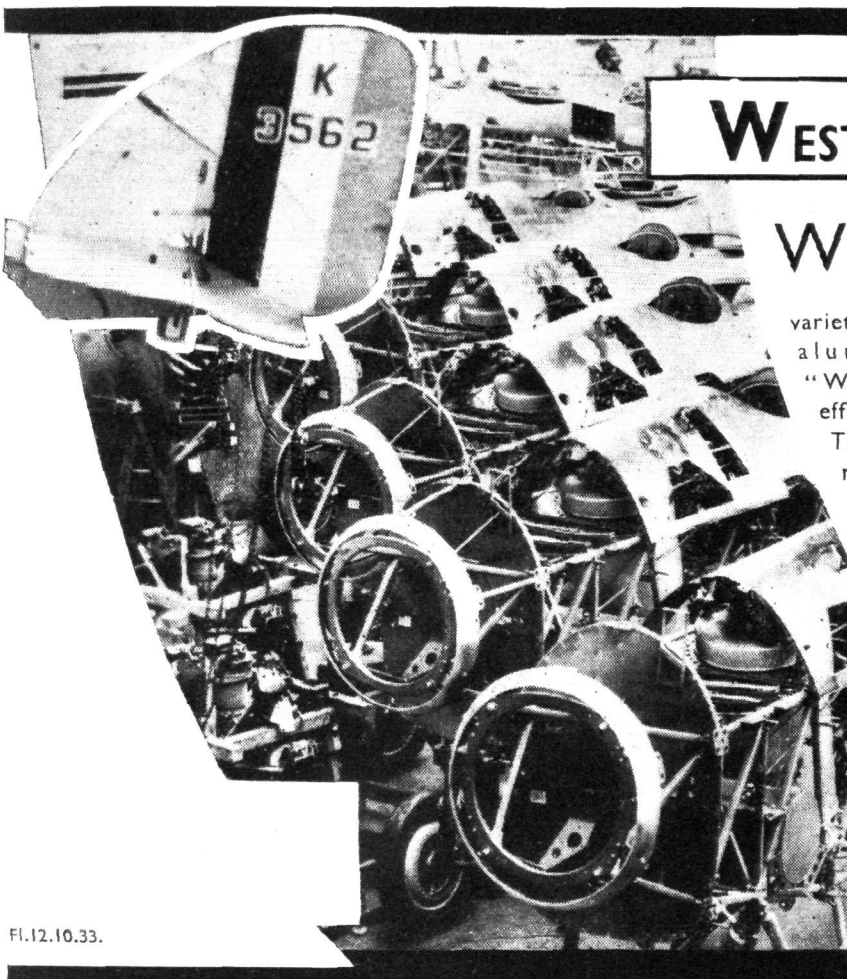
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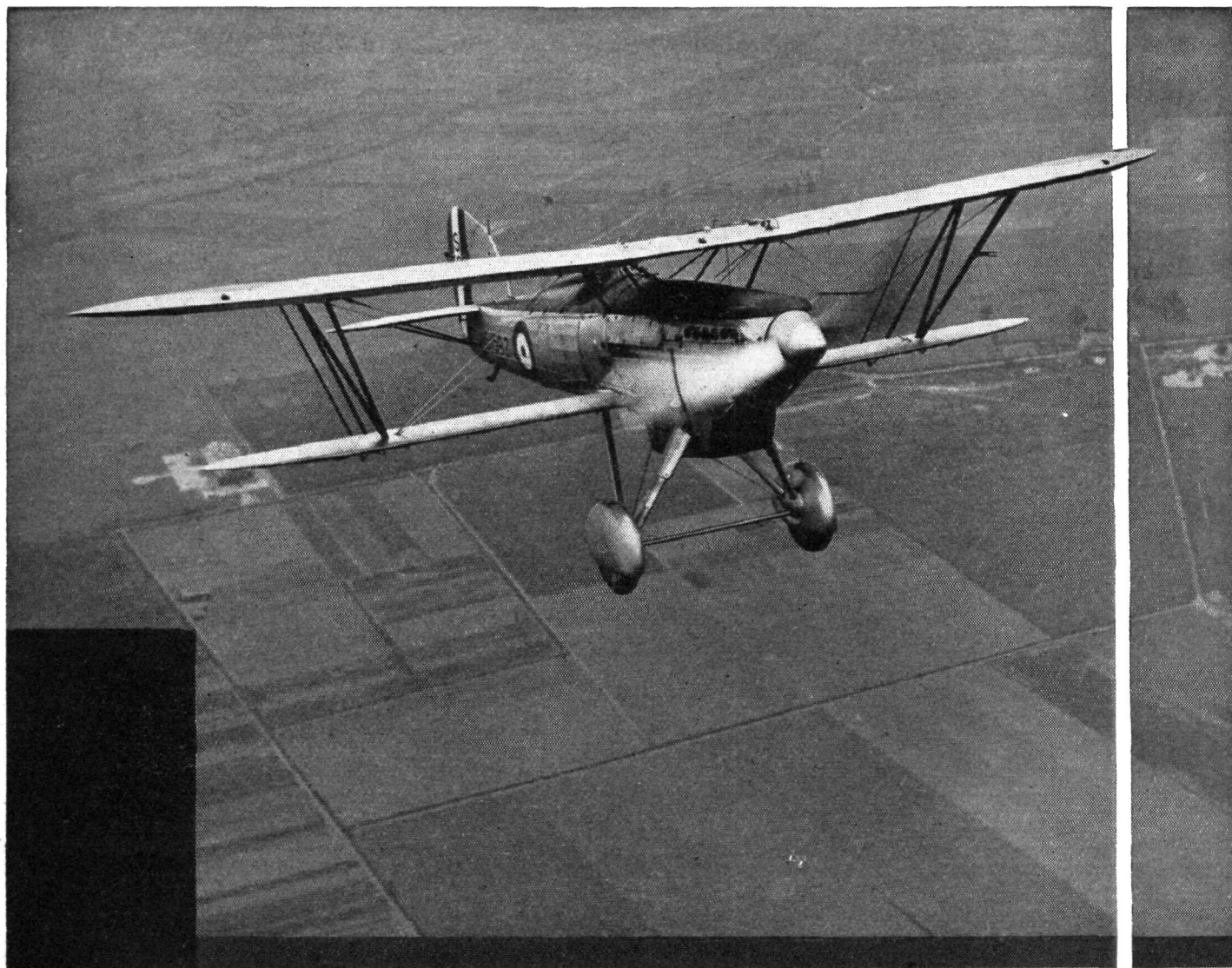
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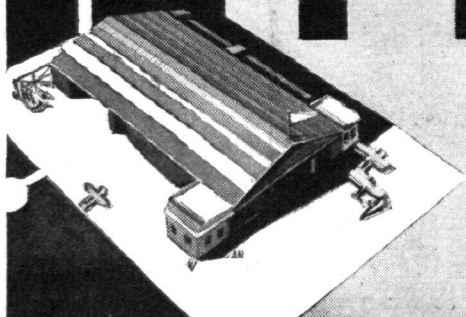
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Founder and Editor: STANLEY SPOONER

A Journal devoted to the Interests, Practice and Progress of Aerial Locomotion and Transport

OFFICIAL ORGAN OF THE ROYAL AERO CLUB OF THE UNITED KINGDOM

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EDITORIAL COMMENT



LORD LLOYD carried the Conservative Party Conference with him when on Thursday, October 5, he moved a resolution advocating the strengthening of the three fighting forces. There were 1,700 delegates from Conservative Associations gathered together at Birmingham, and it is reported that every one of them voted in favour of Lord Lloyd's resolution. It is, naturally, with the strengthening of the Royal Air Force that FLIGHT is most concerned.

Great Britain's Weakness
The public knows less, perhaps, about the Air Force than about any of the three fighting services, and perhaps it was timely and very helpful for the *Daily Mail*, a paper which has done yeoman service for aviation and which has immense influence with those who provide the majority of the voters, to concentrate on the needs of the youngest Service. In making that decision, and in throwing its weight and power into that side of the balance, the *Daily Mail* has earned the respect and gratitude of all patriots. Moreover, the interests of the Royal Air Force were not in rivalry with those of the other two Services. Neither the Navy nor the Army can fight with a prospect of victory unless their own proper aircraft can contribute their share, and those aircraft are part of the Royal Air Force. The recent coast defence exercises off the coast of Scotland showed how valuable the Fleet's aircraft can be in certain circumstances, and in other conditions they might be of even more vital service. The same exercises also showed up how deficient we are in the number of flying boats at our command.

In whichever direction we look we find the same shortage of aircraft. The Navy has to keep the seas open for the food ships, without which we should rapidly starve, and this cannot be done without a plentiful supply of aircraft. This preservation of the country from starvation is undoubtedly our primary need in war. The German "U" boats nearly starved us in the latter years of the great war, and no agency was so potent in defeating the submarines as was aircraft. The few raiders of the German

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DIARY OF CURRENT AND FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in this list:—

- 1933.
- Oct. 12. "Air Traffic Control," Lecture by Maj. R. H. S. Mealing before R.Ae.S.
- Oct. 14. Close of Exhibition of Air Force Artists' Association, at Natural History Museum, S. Kensington.
- Oct. 21. Annual Reunion Dinner of No. 6 Wing, R.N.A.S., and Nos. 66 and 67 Wings, R.A.F.
- Oct. 21. Reading Ae.C. Lady Pilots' Dinner.
- Oct. 27. Hull Ae.C. Annual Ball, at Beverley Road Baths, Hull.
- Nov. 2. "Variable-Pitch Airscrew and Variable Gears," Lecture by W. G. Jennings before R.Ae.S.
- Nov. 3. Norfolk and Norwich Aero Club Annual Ball, at Thatched Assembly Rooms, Norwich.
- Nov. 16. "Stiffness of Aeroplane Wings." Lecture by H. Roxbee Cox before R.Ae.S.
- Nov. 25. Comrades of the R.A.F. Reunion Dinner, at Thames House Restaurant, Millbank, S.W.1.
- Nov. 30. "Tail Buffeting." Lecture by Dr. W. J. Duncan before R.Ae.S.
- Dec. 1. No. 70 Sqn., R.A.F., Reunion Dinner, at R.A.F. Club, Piccadilly.
- Dec. 7. "Possible Future Development of Aircraft Engines." Lecture by A. H. R. Fedden before R.Ae.S.
- Dec. 8. Calshot Reunion Dinner, at R.A.F. Club, Piccadilly, W.1.
- Dec. 14. "Light Alloys for Aeronautical Purposes." Lecture by Dr. L. Aitchison before R.Ae.S.
- Dec. 15. Close of entries for International Touring Competition (1934), Poland.
- Dec. 18-24. International Rally at Cairo and Meeting of the F.A.I.
- 1934.
- Jan. 11. "Testing of Aircraft Landing Mechanisms and Some Factors Affecting Design." Lecture by W. D. Douglas, before R.Ae.S.
- Jan. 18. "Ethyl," Lecture by F. R. Banks before R.Ae.S.
- Feb. 1. "Engine Cowlings," lecture by J. D. North before R.Ae.S.

Navy which contrived to get loose on the high seas in 1914 also did an immensity of damage before they were run to earth and destroyed, but how long could an *Emden* have lived in the Indian Ocean if aircraft had been used to search for her? Such a search would seem particularly a task for airships, but in any case it was search from the air which was needed. The particular type of aircraft to be employed does not concern us for the moment.

Of almost equal importance to us in war is the protection of our cities from air attack. Nationally we might survive the destruction of parts of London for a longer time than we could survive the cutting off of our sea-borne supplies of food, but our path to victory might be considerably lengthened if the docks, stations, factories, and other important buildings in London were to be effectively bombed. We all know that complete immunity from air bombing cannot be guaranteed in any case, but if the Commander-in-Chief of Air Defence of Great Britain has enough squadrons at his command, we have every reason to hope that the operation of raiding London can speedily be made so expensive to the enemy that the attempt will be abandoned. For that, numbers, as well as highest efficiency, are necessary. Intensive attacks by wave after wave of hostile bombers may be expected in the early stages, and to meet them there must be an ample supply of fighter squadrons. At present the Fighting Area comprises only 13 such squadrons. Even if those 13 were to suffer no casualties, the same units could not be kept continuously on duty. Reliefs would be necessary, and for that we have as yet made next to no provision. We should likewise need ample supplies and reserves of searchlights, anti-aircraft guns, and other equipment, while it would be necessary that the Observer Corps should be at full strength, well trained, and equipped with all the latest devices for detection and the rapid passing on of reports. At the same time we should need to counter-attack with our own bombers, striking at the enemy squadrons on their own aerodromes, and blowing up what aircraft factories we could reach. For that purpose a large force of day-bombers and night-bombers would be necessary, again with plentiful reserves.

In 1923 it was laid down that 52 squadrons was the minimum force required for the Air Defence of Great Britain at that time. So soon as that force had been raised, it was intended to review the situation afresh, and in all probability to sanction another programme of expansion. Yet 10 years have passed, and the squadrons of Air Defence of Great Britain *now only number 42!* We are short by 10 squadrons of what was thought to be a modest minimum 10 years ago. We are clearly short by a very much greater number of what we ought to have now.

In no branch of our defence is the shortage of aircraft worse than in the Army. In this country the Army has only five squadrons devoted to its use. These five are all of the class known as army co-operation, intended primarily for reconnaissance and close contact with ground troops, though capable of a certain amount of bombing and machine gunning.

They can carry out a short and a medium reconnaissance, but are not expected to undertake a long reconnaissance. They are not equipped for heavy bombing. Though they are capable of doing a certain amount of fighting, they would hardly expect to be able to survive for very long if assailed by any considerable force of enemy fighters. If they should so survive, it would mean that the fighters which attacked them were not so good at their job as fighters certainly ought to be. Therefore the Army should have its own protective fighters (for in war there would not be the slightest chance of borrowing fighters from Air Defence of Great Britain) and also its own long-range bombers. Even so, the supply of five squadrons as the eyes of the Army is ludicrously inadequate. The number should be multiplied many times. At present our Army is incapable of engaging in any first-class war, for the simple reason that it would soon be literally blind.

Our weakness in the air is due to two reasons, (1) finance, and (2) the desire to set a good example. Economy is a very desirable asset, but it is always taking a grave risk and is utterly false when one economises on insurance premia. If the state of international politics is very calm, such a risk may temporarily be justifiable, but who can say that that condition is now fulfilled? Russia may not be desirous of attacking us today or tomorrow, but the Soviet leaders never cease preaching to their ignorant masses that Great Britain is the great enemy of their system, the greatest upholder of the capitalistic system. Russia continues to acquire by building and otherwise unknown numbers of warlike aircraft, with, incidentally, India, probably believed to be more disaffected than she really is, offering a tempting bait. There are only three more army co-operation squadrons in India and four day-bomber squadrons as well—just enough to deal with Frontier disturbances. If Russia marched through Afghanistan against the Indian Frontier, these seven squadrons would be but a flea-bite. Again, fighters and long-range machines would be required.

As for our good example, we have truly piped to the nations at Geneva, and they have not danced; we have mourned to them, and they have not lamented. Even when they talk of disarmament, they claim that Great Britain's present weakness is her normal state of armament equipment, and that if they disarm by a certain proportion, Great Britain must apply the same proportion to her own already shrunken Air Force. Our effort has been great and it has been sincere, but it has failed. We should now recognise that fact, and set about putting our defence house in order.

The Conservative party is the largest in the country, and the most influential. It is also the most homogeneous. This section of the community has now unanimously approved of the principle of strengthening our defences. There is no doubt that the resolution passed at Birmingham can and should be translated into action at Westminster. At all points, and particularly in the air, the country's desire is to see Great Britain as a strong man armed, keeping his house.



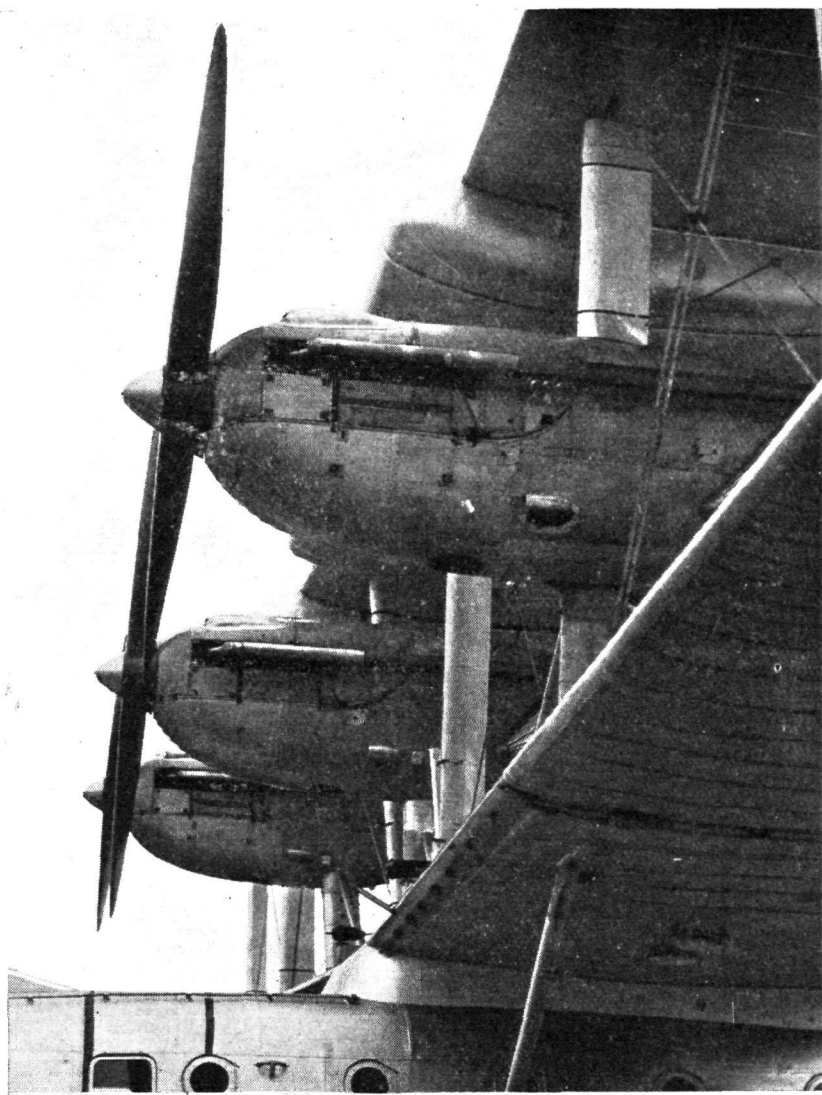
THE BLACKBURN "PERTH"

3 Rolls-Royce "Buzzard II"
MS Engines

FOG interfered with the official launch at Brough, on October 9, of the new Blackburn "Perth" flying boat which has just been completed by the Blackburn Aeroplane & Motor Co., Ltd., to the order of the British Air Ministry. A party of guests invited by the Blackburn and Rolls-Royce companies travelled to Hull on Sunday last in order to be at Brough in time for the launch on Monday morning at high tide, but a sea fog made the actual launch impossible, and when that cleared a gale warning was issued, so that it was not deemed advisable to send the machine for its first flight, and the visitors had to be content with witnessing the christening of the machine by Lady Atkinson, and a demonstration of the automatic quick-firing gun which has been installed in the bows of the hull.

The Blackburn "Perth" is the last of a long family of "Iris" flying boats, the first of which was produced as long ago as 1926. Mr. Robert Blackburn is one of the pioneers of British aircraft constructors, and almost from the beginning he has been closely associated with seagoing and marine aircraft. Torpedo planes have formed the mainstay of the Blackburn business for very many years, and when it was decided to add flying boats to the aircraft types produced, the services of Mr. J. D. Rennie were secured. From the design of the first "Iris" to the present "Perth," Mr. Rennie has, under Maj. Bumpus, the chief engineer, been in charge of flying-boat design, a task which he has fulfilled with conspicuous success.

In its general lines the latest machine follows the well-tested and proved features of the "Iris" family, the superstructure being of biplane arrangement and the hull characterised by a pronounced vee bottom which is particularly sharp towards the bows. This sharp vee serves to lessen the shocks of alighting and taxiing in a seaway, and the Blackburn flying boats are noteworthy for their



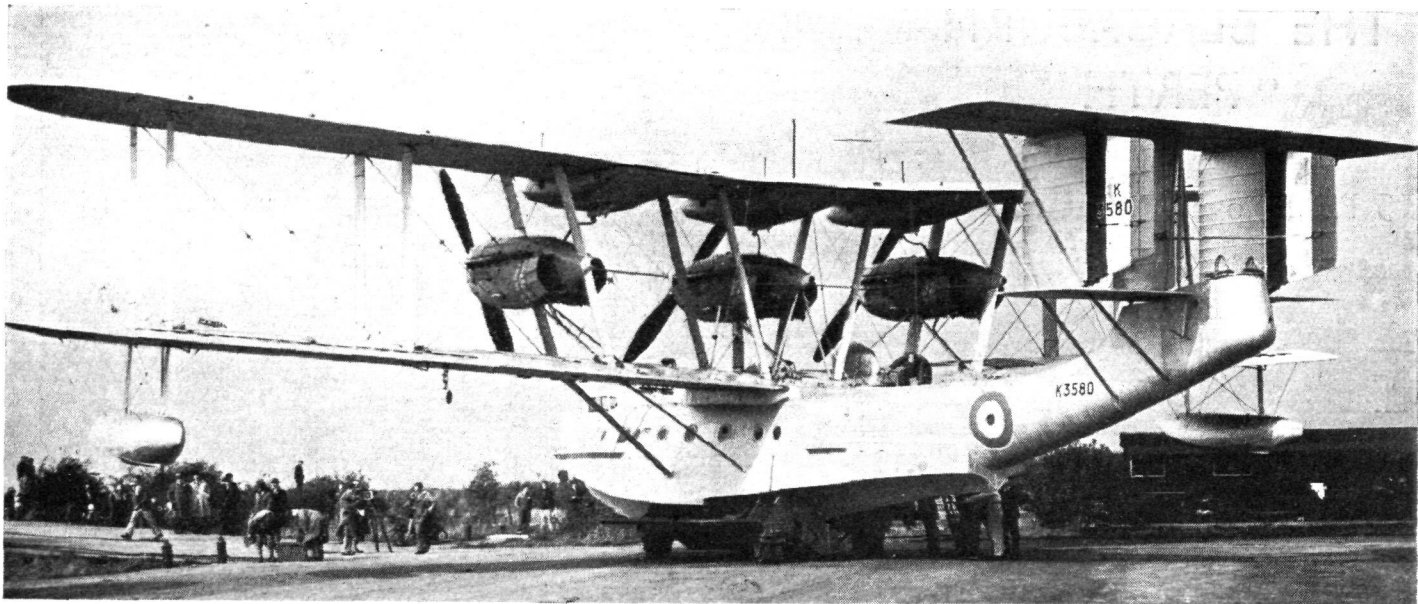
2,760 B.H.P.: The Rolls-Royce "Buzzard" II MS. engines of the Blackburn "Perth." (FLIGHT Photo.)

seaworthiness as well as for their sturdy construction.

The "Perth" belongs to the class of flying boat designed for reconnaissance and coastal patrol, which means that it is capable of operation either in co-operation with the Fleet or independently. Its long range (1,500 miles maximum) enables it to cover a large area of coast line on patrol against hostile surface or submarine craft, or to operate over long distances when used for reconnaissance



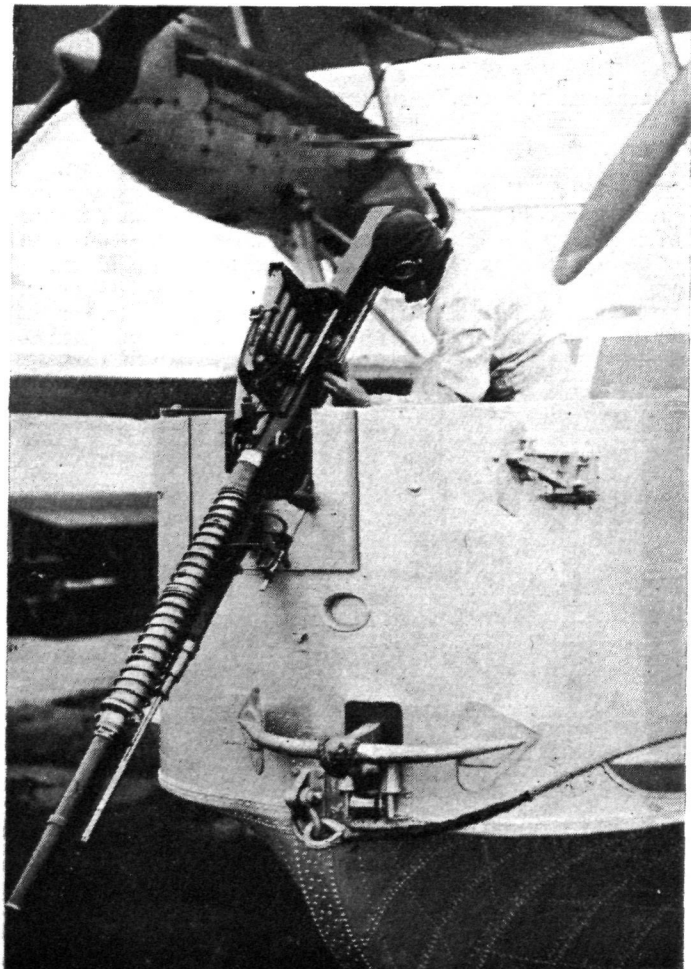
THE BLACKBURN "PERTH": Note the flare of the vee bottom towards the bows. (FLIGHT Photo.)



or bombing purposes. For instance, it could make a complete "circuit of the North Sea" as a normal reconnaissance flight.

Apart from its usual armament of bombs and machine guns, the "Perth" introduces a new feature in air armament by being fitted, for the first time, with a large-calibre automatic quick-firing gun which fires 1½-lb. shells at a rate of 100 per minute. This gun is mounted in the cockpit in the bows, which have been specially designed to accommodate it.

Normally, the "Perth" class of flying boat will carry a crew of five: First pilot, second pilot (who is also the navigator), bow gunner, wireless operator, and an engineer who also mans the rear guns. In addition to the new quick-firing gun the "Perth" carries three machine guns and 2,000 lb. of bombs, so that it will be realised that it



NEW ARMAMENT : The quick-firing gun mounted in the bows of the Blackburn "Perth." (FLIGHT Photo.)

THE AERIAL BATTLE CRUISER : The people in the background give a good idea of the size of the Blackburn "Perth." (FLIGHT Photo.)

is a formidable opponent and may, in fact, be regarded as the forerunner of the future cruiser of the air.

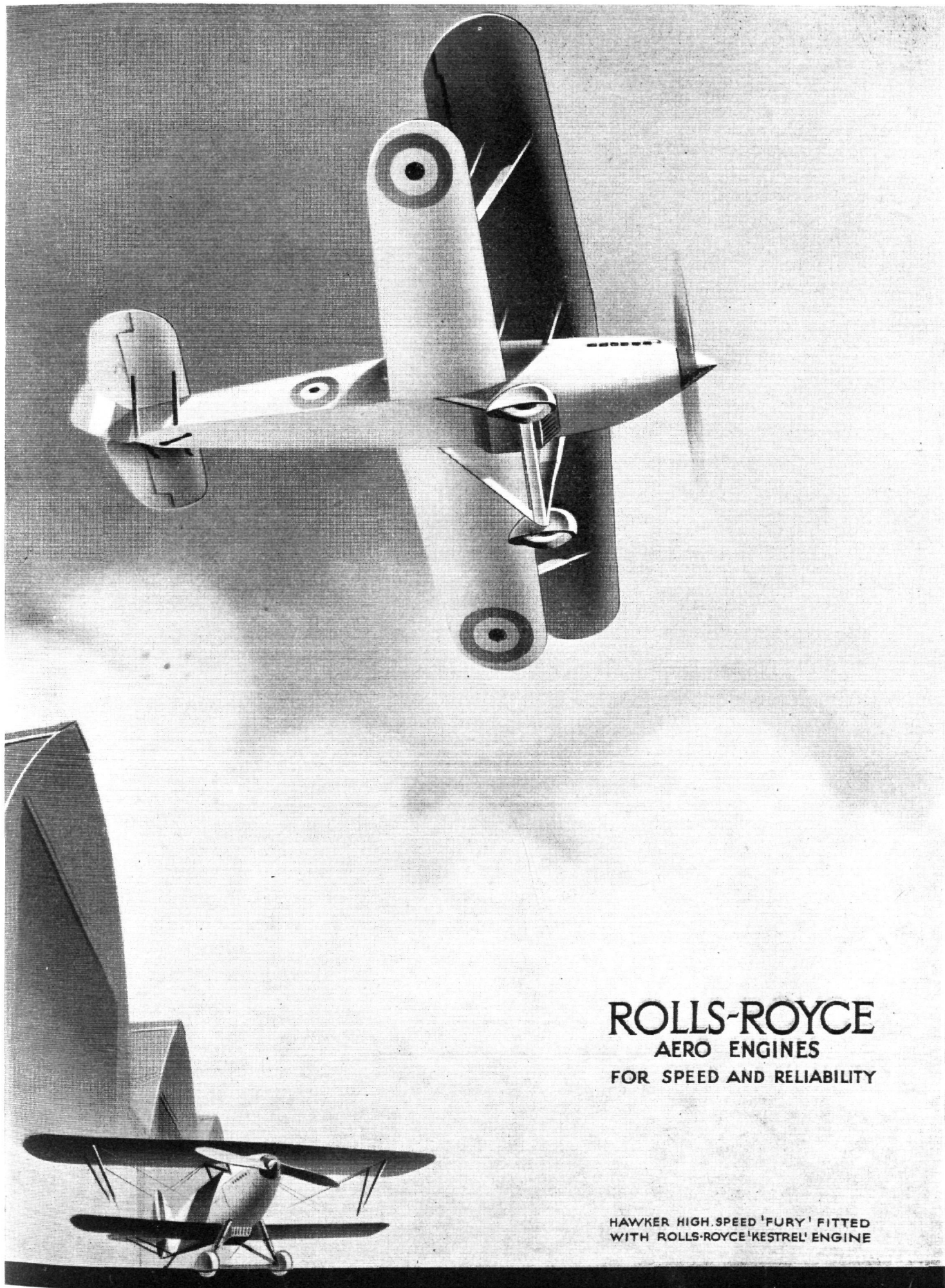
The hull of the "Perth" is, as already mentioned, similar to those of previous boats of the "Iris" family, with two steps and a pronounced vee bottom. The construction includes full section frames attached to a full-length keelson, and the planking is of "Alclad." This material is metal sheet in the form of a "sandwich," with a central layer of duralumin and outer layers of pure aluminium. Highly-stressed fittings, etc., are of stainless steel.

The accommodation in the hull is arranged as follows: In the extreme bows is the station equipped with the quick-firing gun and a machine gun. This cockpit also contains the bomb fusing and release gear, the anchor and winch, and the mooring and towing tackle.

Aft of the front cockpit is the pilots' cabin, with side-by-side seating and dual controls. Then comes the navigator's station, equipped with chart table, stool, chart racks, etc. Next comes the "wardroom," which forms the officers' sleeping and living quarters, and then the men's quarters and engineer's station. The wireless cabin is on the port side and the galley on starboard, with rear gun cockpit above. Farthest aft is the lavatory, and in the extreme stern is a gunner's cockpit, whence the defence against attack from the rear is undertaken. The view and field of fire from this cockpit is unobstructed over the entire

THE BLACKBURN "PERTH" 3 Rolls-Royce "Buzzard II" Engines

<i>Dimensions</i>				
		ft.	in.	m.
Length o.a. . . . .	..	70	0	21.33
Wing span . . . . .	..	97	0	29.56
Overall height . . . .	..	25	6	7.76
Max. beam of hull . . .	..	12	6	3.81
Wing area . . . . .	..	2,511 sq. ft. (233 sq. m.)		
<i>Weights</i>				
		lb.		kg.
Tare weight . . . . .	..	20,927		9 490
Disposable load . . . .	..	11,573		5 250
Normal gross weight . .	..	32,500		14 740
Max. gross weight . . .	..	38,000		17 235
Ratio gross weight : tare weight (normal)		1.55		
Ratio gross weight : tare weight (maximum)		1.81		
<i>Performance</i>				
Maximum speed . . . .	..	132 m.p.h. (213 km./h.)		
Minimum speed . . . .	..	63 m.p.h. (102 km./h.)		
Initial rate of climb . .	..	800 ft./min. (4.06 m./sec.)		
Service ceiling . . . .	..	11,500 ft. (3 510 m.)		
Normal range . . . . .	..	870 sea miles (1,613 km.)		
Max. range . . . . .	..	1,500 sea miles (2 780 km.)		

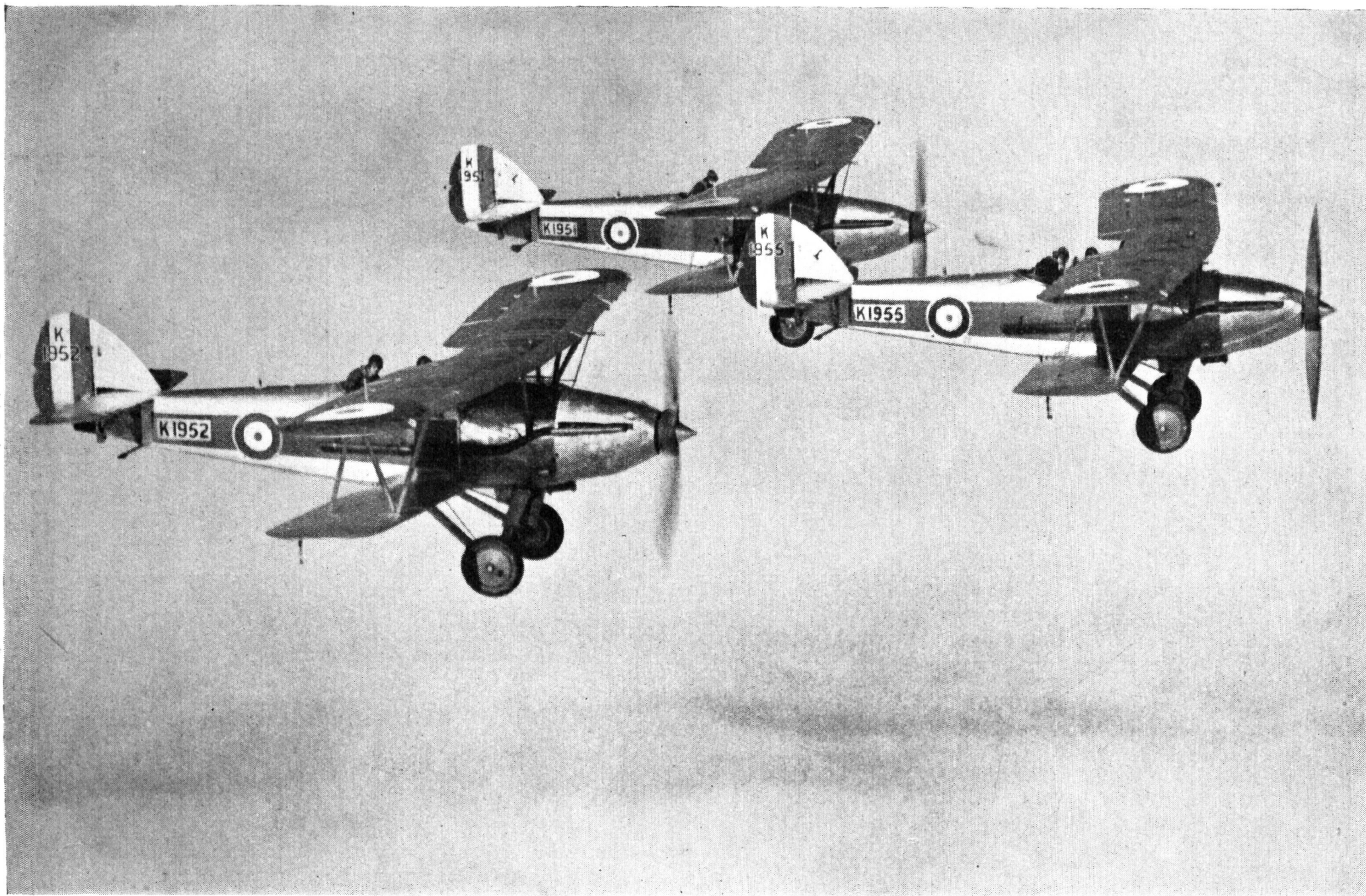


The advertisement features a large, detailed illustration of a Hawker 'Fury' fighter aircraft in a steep climb, viewed from below. The plane is white with dark markings, including a large 'X' on the fuselage and a circular insignia on the tail. The background is a cloudy sky. In the bottom left corner, a smaller biplane is shown on the ground, with a building partially visible behind it.

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WITH ROLLS-ROYCE 'KESTREL' ENGINE

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TWO-SEATER FIGHTER EXERCISES: One flight of No. 23 (Fighter) Squadron in Hawker "Demos" (Rolls-Royce "Kestrel").
 ("Flight" Photo.)

Advt.

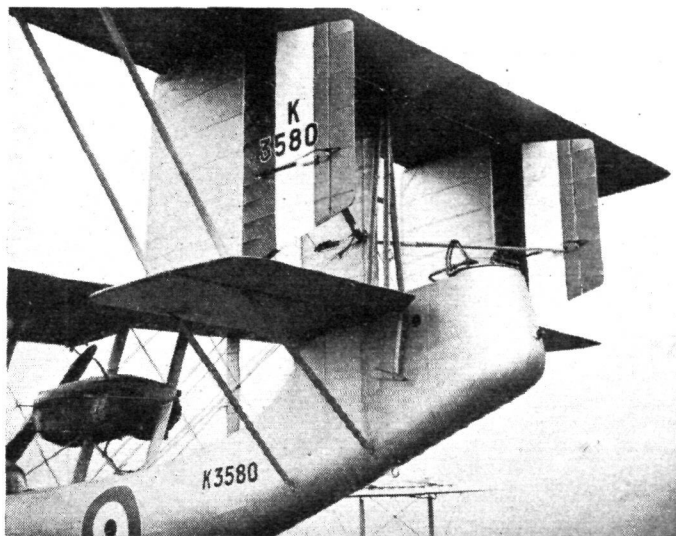
hemisphere aft of the machine. The hull is so arranged that through-communication from bow to stern is provided. The equipment includes an inflatable dinghy.

The superstructure consists of biplane wings of equal span and chord, with the three engines carried between them. They are of all-metal construction, with spars of duralumin box section and tubular ribs. Walkways are provided on the lower centre-section for access to the engines, and on the top plane there are walkways to enable engineers to get to the ailerons.

Like the main planes, the tail is of biplane arrangement, but the upper tailplane is of greater span than the lower. Elevators are hinged to lower as well as upper tailplane, but the lower elevator is used for trimming only. There are two vertical fins and three rudders, and servo control with clutch mechanism is incorporated in all three rudders. The construction of the tail surfaces is similar to that used in the wings, *i.e.*, duralumin box spars and tubular duralumin ribs, with fabric covering.

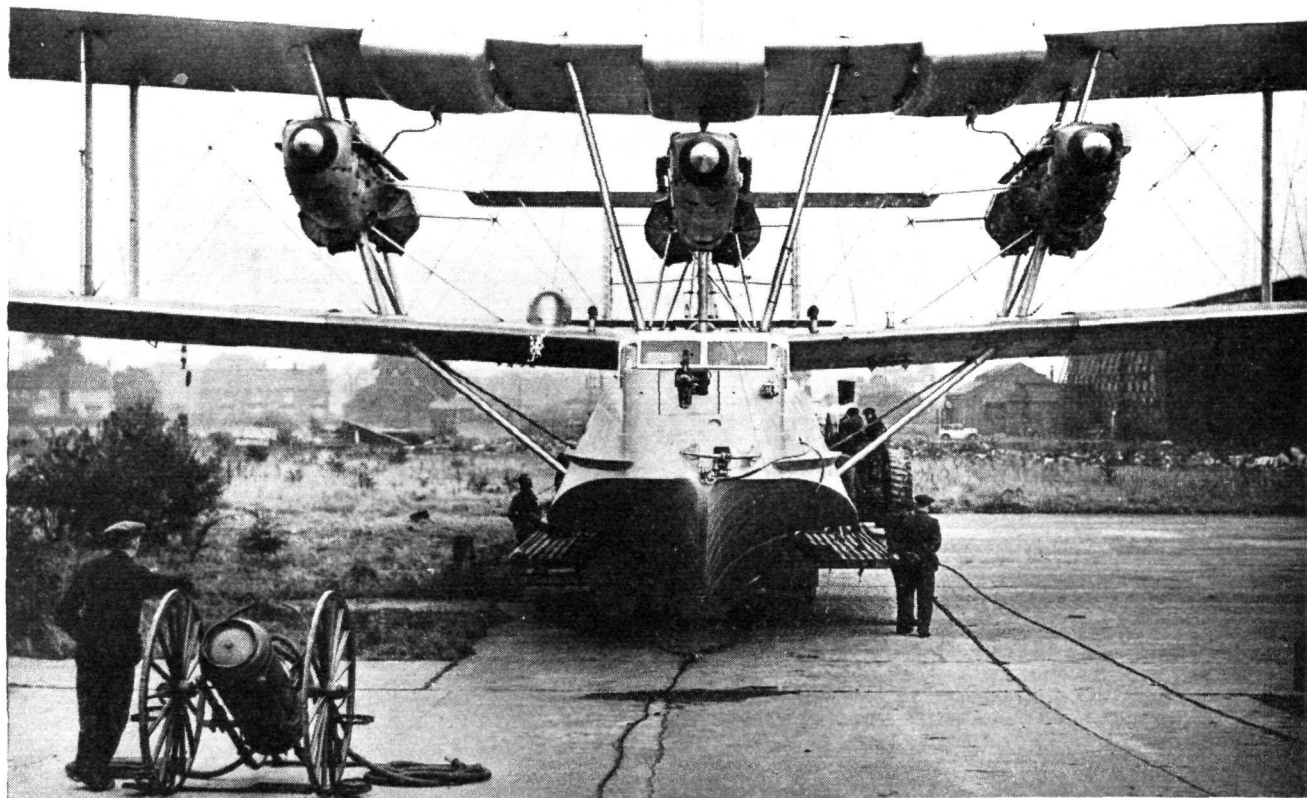
The power plant consists of three Rolls-Royce "Buzzard" engines, series II MS., placed side by side in the gap between the wings. The central engine is mounted on trestle struts from the lower centre-section, but the two outboard engines are supported on the sloping interplane struts. The radiators are mounted one on each side of the tail fairing of each engine.

As the large series of Rolls-Royce engines is apt to be a little confusing, it is, perhaps, worth recalling that the "Buzzard" II MS. is a 12-cylinder water-cooled vee engine, with a bore of 6 in. and a stroke of 6.6 in., developing a normal power of 825 b.h.p. at sea level and a maximum of 920 b.h.p. The normal speed is 2,000 r.p.m., and the maximum 2,300 r.p.m. The compression ratio is 5.5:1 and the airscrew reduction gear ratio is 0.553:1. The letters MS. indicate that the engine is moderately supercharged.



THE "CRUISER STERN": Note the gunner's tail defence position. The rudders are provided with servo flaps. (FLIGHT Photo.)

All the petrol is carried in three wing-section tanks in the upper wing. Each tank has a capacity of 575 gallons (2 614 litres), giving a total petrol capacity of 1,725 gallons (7 842 litres). With full tanks the range is 1,500 miles. At normal gross weight of 32,500 lb., the machine carries either a reduced military load or less than the full quantity of petrol, and the maximum gross weight of 38,000 lb. is in the nature of an overload weight.



WARMING UP: The central Rolls-Royce "Buzzard" engine is mounted on trestle struts, while the outboard engines are supported by the sloping interplane struts. (FLIGHT Photo.)



Lord Cowdray

WEETMAN HAROLD MILLER PEARSON, Viscount Cowdray, a Liberal politician, a notable polo player and one who had extensive interests in aircraft manufacturing firms, died at his residence at 54, Mount Street, London, W., on October 5. Lord Cowdray was only 51 years of age, but was subject to asthma, and had recently had a bad attack. He served during the war as a D.A.Q.M.G. and as a staff captain and personal assistant to the Q.M.G. He was Chairman of the Westminster Press, Ltd., and a

trustee of the *News Chronicle*. His aviation interests date back many years. In 1925, through Whitehall Securities, Ltd., he obtained an interest in Metal Propellers, Ltd., in 1929 in Spartan Aircraft, Ltd., and subsequently in Saunders-Roe, Ltd., and Spartan Air Lines, Ltd., and it was known that he was taking an increasing personal interest in aviation matters. On the death of his father, the first viscount, in May, 1927, he came into an estate of £4,000,000. He leaves, as his heir, the Hon. Weetman John Churchill Pearson, who was born in 1910.

SPREADING THE GOSPEL

WITH the displays at Staines and Romford last Sunday, Sir Alan Cobham's National Aviation Day Crusade comes to an end for this year. His machines will now hibernate at Ford Aerodrome and be overhauled ready for future use.

The present is therefore a very suitable time to review the amazing amount of work which his two "squadrons" of aeroplanes have done. Some 1,216 performances have been given at 506 different towns in Great Britain, the Irish Free State, and South Africa, during the last 18 months. During this summer alone over 194,000 people have been taken up for flights and over 800,000 have paid for admission to the displays. It has been calculated that the 18 machines comprising the two fleets have between them flown well over 700,000 miles.

The organisation of the two displays has naturally been a colossal task, but has not proved beyond the powers of Sir Alan. He himself has for the most part been with No. 1 tour, while Mr. Eskell has been responsible for No. 2. The two fleets were made up of the following aeroplanes:—No. 1: A "Clive" ("Jupiter IX"), Airspeed "Ferry" (three "Gipsys"), "Tiger Moth" ("Gipsy Major"), "Moth" ("Gipsy II"), "Autogiro" ("Genet"), "Fox Moth" ("Gipsy Major"), "Lincock" ("Lynx Major"), and three Avros ("Mongoose"). No. 2 consisted of the same types, except that a Handley Page W.10 (Napier "Lions") replaced the "Clive," the "Lincock" had a "Cheetah" engine, and the three Avros had Le Rhône engines. The pilots flying these machines were Messrs. H. Johnson, J. King, G. Tyson, B. Wilson, F. Jaques, R. Ogden, C. Turner Hughes, C. Brembridge, C. Bebb, R. Warner, H. Rawson, W. Ease-down. The Avros were separate units, those with No. 1 being operated by Mr. F. Holmes, and were flown by Messrs. F. Kingwill, W. Miller, and F. Kemp. Those with No. 2 were operated by Mr. L. Rimmer, who also acted as one of the pilots; with him he had J. Mackay



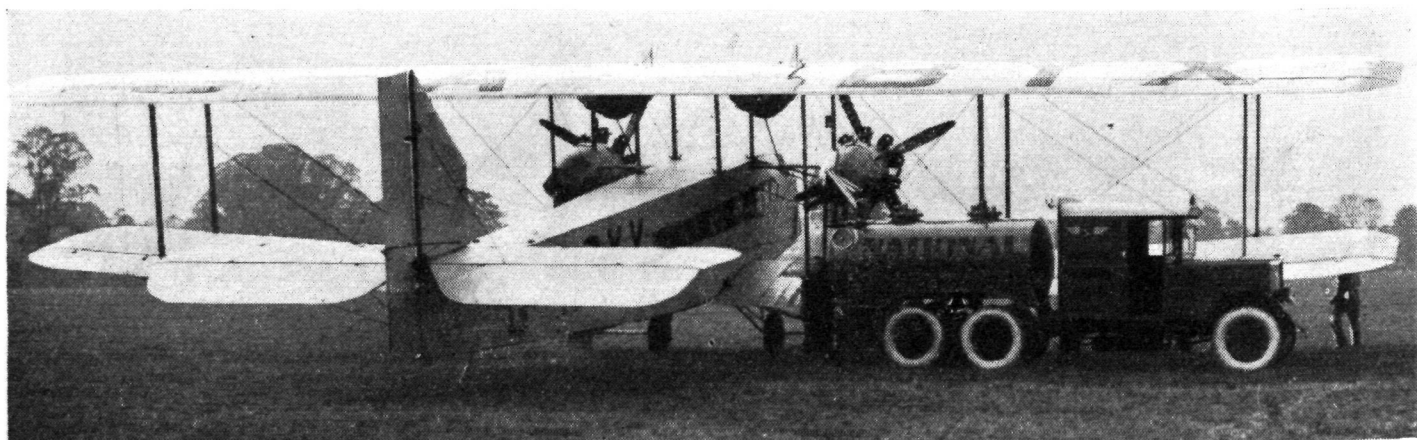
IN THE PULPIT : Sir Alan Cobham spreading the gospel. (FLIGHT Photo.)

and H. Down. Aerofilms, Ltd., sent a Spartan three-seater ("Hermes II") round with each tour, and these machines, with their Williamson cameras, did a very great deal of photographic work.

One of Sir Alan's chief aims was to provide amusement for the spectators, and for this reason he arranged aerobatic displays on the "Tiger Moths" and "Lincocks," and inverted flying on the former; height- and speed-judging competitions; wireless controlled flying on the "Moth," besides the attraction of a varied fleet of aeroplanes in which to take flights. The Avros ("Mongoose") of Mr. Holmes, which we saw at Molesey last Saturday, also gave an excellent display of formation flying. These machines, old though they are, are still probably the best there are for all-round joy-riding work. These particular three have between them carried some 48,000 passengers since the start of the trip, naturally without accident of any kind whatsoever.

One of the hardest tasks in an organisation of this kind is that of the ground engineering staff, who have to keep the aeroplanes in perfect working order, although those same machines are flying every day at a different town. The Chief Engineer was Mr. A. N. Hutchinson, and he remained with No. 1 tour. Mr. L. Kelly was Engineer-in-Chief of No. 2 tour. Each had with him about nine mechanics. A gauge of their work and of the number of hours flown can be obtained from the fact that over 124,000 gallons of National Benzole Mixture were used during the season for the 26 aircraft engines, which were lubricated with "Castrol." Throughout the whole time there were no forced landings due to engine failure, a fact which speaks well for the 52 B.T.H. magnetos, and 288 K.L.G. sparking plugs with which the engines were fitted.

Naturally, on work of this kind, all the landings together total a large number of thousands, and the strain on the undercarriages, tyres and wheel brakes, is exceedingly heavy. The Dunlop and Palmer tyres, however, stood up to their work perfectly, and the Bendix, Palmer, and Lockheed wheel brakes gave no trouble. Other items which have to stand a great deal are the covered surfaces of the aeroplanes, because at no time during the whole season were the aeroplanes in hangars. Titanine dope, however, coped successfully with these conditions. Finally, one cannot omit from the list the airscrews. A Fairey



THE "GIANT" AIR LINER : The H. P. "Clive" (two Bristol "Jupiters"), which attracted the crowd by virtue of its size, being refuelled from the specially designed National Benzole tank wagon which was described in FLIGHT for April 20, 1933. (FLIGHT Photo.)

BY EXPERTS: Mr. Fred Holmes' Avros ("Mongoose" engines) do some very polished formation flying.



ORGANISATION: A unique view of Sir Alan flying a "Moth," taken from the cabin window of the "Clive" during the formation flight which was arranged over London on Saturday, October 7, to celebrate the successful conclusion of the National Aviation Day Display Crusade. (Flight Photos.)

metal airscrew was fitted to each of the "Autogiros," neither of which could expect trouble; all the rest of the machines used wooden airscrews made by the Airscrew Co. of Weybridge, and not one of these gave the slightest trouble, despite the fact that the engines were being started and stopped all day, which, with the innumerable take-offs, means that for a very appreciable part of the time they were running at full throttle.

Not the least important part of an organisation of this nature is the ground transport. Large numbers of officials had to be sent ahead of each tour to prepare the way and to ensure the success of the displays by attention to

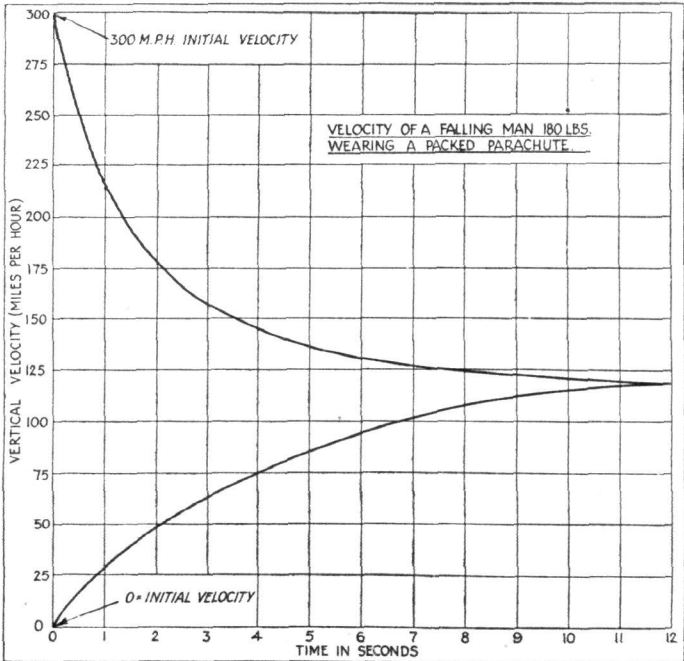
the provision of adequate publicity. Mr. E. M. Rossiter was in charge of this department. The ground staff as a whole made use of 36 road vehicles, which between them covered more than 430,000 miles. A large number of the motor-cars were Armstrong Siddeleys, with the Pre-selector gear. These cars proved admirable for the work, easy to drive and dependable.

The broadcasting van and the wireless equipment in the two "Moths," which daily gave demonstrations of wireless controlled flight, were arranged by the Standard Telephone & Cable Co., the batteries for which were those of C.A.V.-Lucas make.



IRVIN PARACHUTES

ON October 4 Mr. Leslie L. Irving spoke at the Royal Aero Club, at the first House Dinner of the winter season. He amused his listeners with tales of the early days, when he himself used to drop from balloons and eventually from aeroplanes, although this latter did not take place until 1911. Mr. Irving started to wear a parachute as a safety device of his own while piloting aeroplanes, but he was unable to make Government officials interested in the idea until the early part of 1918. In April, 1919, Mr. Irving made the first manually-operated jump on record, and from that time the American Government adopted the Irvin Airchute as standard equipment, but wearing them was not made compulsory until some years afterwards. The first life was saved on October 20, 1922, and now there are over 800 members of the Caterpillar Club. Mr. Irving also explained some interesting facts about the rate at which a human body falls and also decelerates when it is dropped out of an aeroplane moving at a faster rate than the terminal velocity of that body. The graph shows the time this takes. In conclusion, Mr. Irving had some interesting things to say about the future, when he visualised the use of parachutes for allowing the pilot to drop the whole passenger cabin in cases of emergency.



The graph on the right shows the acceleration and deceleration of a man falling through air, when wearing a parachute.

No. 207 (BOMBER) SQUADRON

By MAJOR F. A. de V.
ROBERTSON



It was during the Army Manœuvres of September, 1925, that I first made acquaintance with No. 207 (Bomber) Squadron. Air Defence of Great Britain had lent two bomber squadrons to the Army to take part in the most extensive manœuvres

which had been held since the war. The two selected were No. 39 B.S., which has since gone on the Indian establishment and lives at Risalpur, and the other was No. 207 B.S., then commanded by Sqd. Ldr. V. Gaskell-Blackburn, D.S.C., A.F.C. In one of my reports on those manœuvres I wrote: "I have a very vivid recollection of No. 207 passing over my head one afternoon to work mischief on the rear of the Wessex force, and keeping formation in squadron mass as perfectly as they did at Hendon." The machines they flew in those days were of the D.H.9A. type. Afterwards they were given the Fairey III F. with Napier "Lion," and they kept these machines until October, 1932, when they were re-equipped with "Gordons" (with the Armstrong-Siddeley "Panther" II A.), which had been III F.'s converted at Henlow. It was not until the summer of 1933 that I was privileged to visit Bircham Newton and "interview" the squadron.

Bircham Newton is not far from the north coast of Norfolk, and is within an easy flight of the King's country house at Sandringham. It is also near the sea, which is another advantage. Otherwise, it is rather a bleak spot, and I could not honestly say that I envied the two squadrons who live there, Nos. 35 and 207 B.S., their habitation. At the time of my visit No. 207 was practising for the R.A.F. Display, at which they were to take part in the Set Piece. So far as the spectators were concerned, their trouble was wasted, for the rain caused a curtailment of the programme, and I for one did not see No. 207 make their appearance. I expect that their entry was cancelled by wireless.



On æsthetic grounds I much prefer the appearance of the Fairey III F. to that of the Fairey "Gordon." When a fuselage has been designed for a water-cooled engine, and then is adapted to take an air-cooled radial, it reminds me of the traditional 'Arry on 'Ampstead 'Eath, when he has exchanged hats with 'Arriet. The C.O. of the squadron, however, told me that he preferred air-cooled engines, and that the "Gordons" were faster and took off better than the old III F.'s used to do. It is performance which matters, not the tastes of Press correspondents.

Squadron numbers of 200 and upwards (not, of course, up to 500) indicate a connection with the old Royal Naval Air Service. Most of the numbers in the 200's belong to flying-boat squadrons, but 207 and 208 are landplane squadrons, the former being the subject of this article and the latter an Army co-operation squadron stationed at Heliopolis. In both cases, when the Royal Air Force was formed, the two figures "20" were prefixed to the original R.N.A.S. number. Thus, No. 207 Squadron, R.A.F., was originally No. 7 Squadron, R.N.A.S.

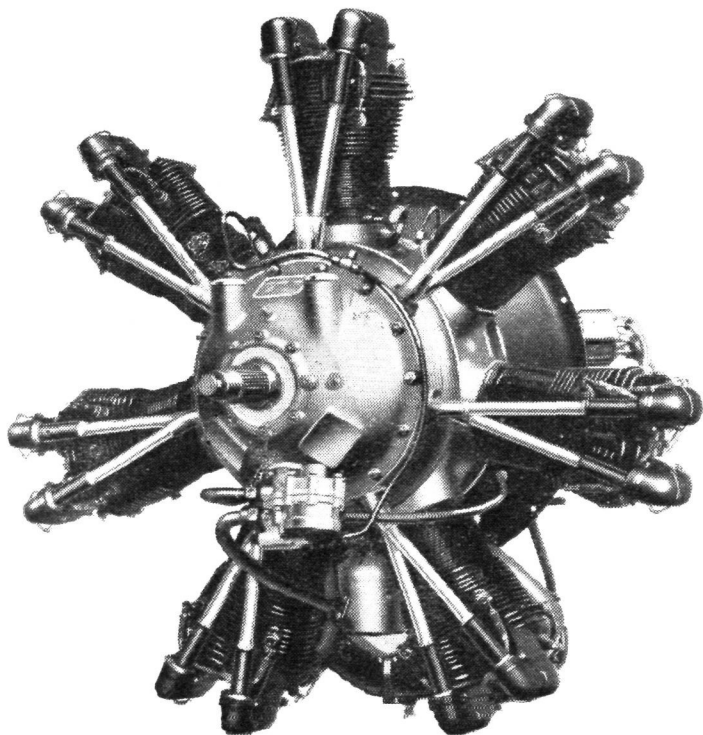
In April, 1916, two R.N.A.S. wings were formed at Dunkirk in order to harry more than ever the German U boats and aircraft stationed on the coast of Belgium. After a time No. 4 Wing gave birth to No. 7 Squadron, and this in turn gave off No. 7A, which afterwards became No. 14 Squadron, R.N.A.S.

Dunkirk was the naval base which had to watch and attack all the German positions on the Belgian coast, airship bases, aerodromes, submarines in the basins at Bruges, the lock gates of canals, railways, and the mole at Zeebrugge, etc. This was one of the most important tasks allotted to the R.N.A.S. in the war. At first the R.N.A.S. unit was a flight of six machines, but later on squadrons were organised. No. 7 Squadron, R.N.A.S., came into being as a separate unit at the end of November, 1916. It was equipped purely as a bomber squadron, while No. 6 Squadron, R.N.A.S., became purely a fighting unit. No. 7 started its independent career with one flight of twin-engined "Caudrons" and one flight of Short bombers.

During most of the winter the weather was too bad for much flying, but in February a heavy frost, 22½ deg. on the ground, froze in a number of German destroyers in the basins at Bruges. The target was so tempting that it was felt that an attempt must be made to warm up the basin with exploding bombs. Both the R.N.A.S. wings at Dunkirk made strenuous efforts. The cold hampered them. Engines froze, and pilots lost their way, but on February 3 one machine dropped three bombs among the frozen-in destroyers. The attempt next night was more



READY FOR THE DAY'S WORK : Fairey "Gordons" ("Panther" engines) lined up on the aerodrome at Bircham Newton. (FLIGHT Photo.)



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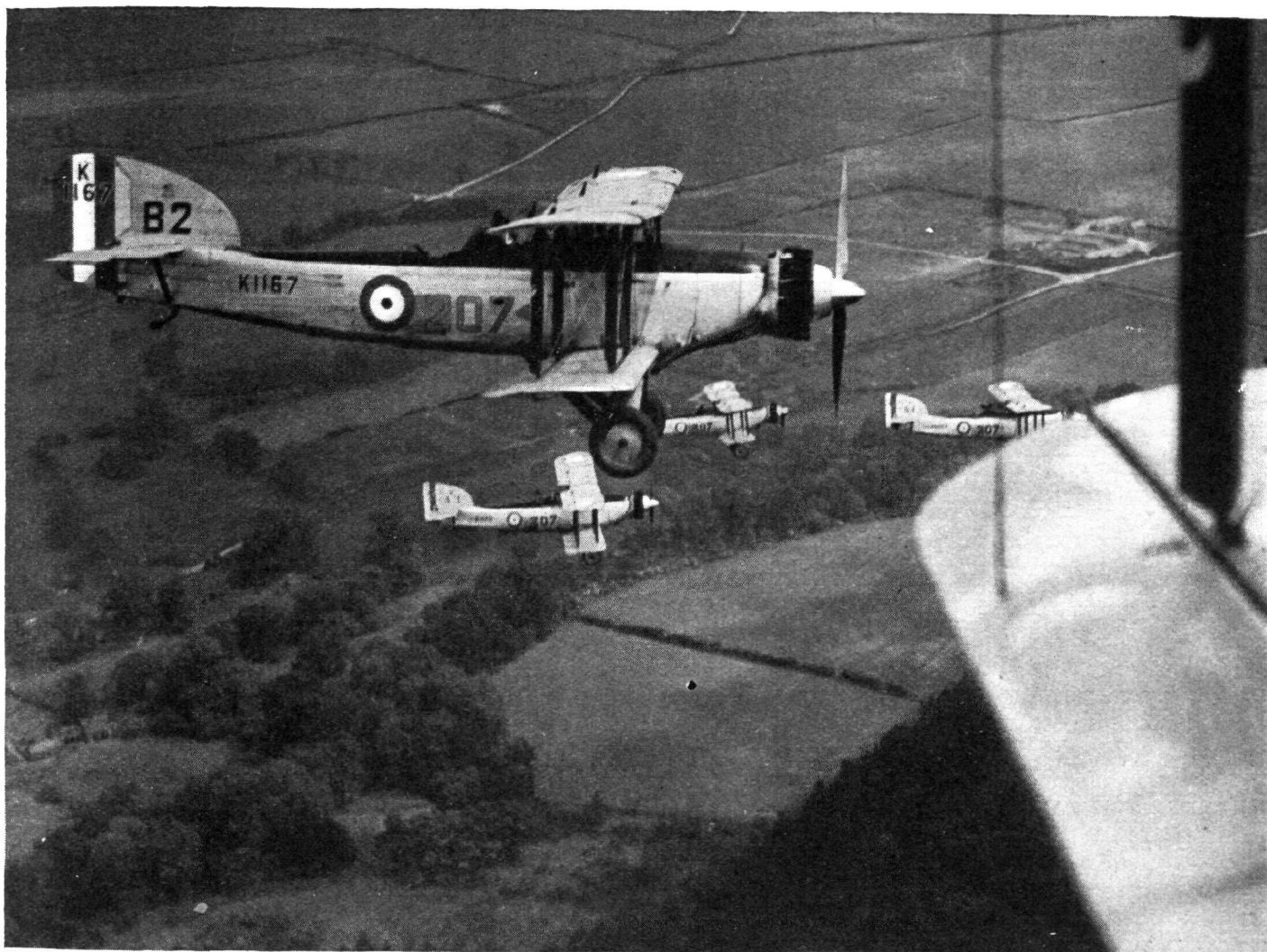
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CHANGING FORMATION : No. 207 Squadron changing from Squadron Formation to Echelon of Flights. (FLIGHT Photo.)

successful, and aerial photographs showed that considerable damage was done.

In April, 1917, No. 7 Squadron moved to Coudekerke, and came into a bombing wing, commanded by Wing Com. D. A. Spencer Grey, D.S.O. At the same time it acquired a half-flight of five Handley Page night bombers with Rolls-Royce 250-h.p. engines. Its other machines were seven Short bombers. At first the Handley Pages were used for daylight work against the German destroyers round Zeebrugge, as these had lately bombarded Dover, Ramsgate, and Margate. On April 23 one Handley Page got a direct hit on a destroyer with a 65-lb. bomb. The vessel listed heavily and was evidently badly damaged. Shortly afterwards another Handley Page was shot down by a German seaplane while it was attacking four destroyers. It came down on the water, and two French flying boats made a very gallant attempt to rescue the crew. One of them got away with the wounded observer. The other took off the rest of the crew under fire from shore batteries, but could not take off with the load, and was made prisoner by German motor boats.

To counter the aeroplane raids on England in June, 1917, the R.N.A.S. was ordered to make special attacks on the Belgian bases. On one occasion eight French pilots acted as navigators for the Handley Pages, and the raid did a great deal of damage to the sheds on the aerodrome at St. Denis Westrem and the buildings on the Zeebrugge mole.

During June, 1917, the squadron was honoured in an unusual way. The King and Queen of the Belgians visited the squadron, and Sqd. Com. J. T. Babington took both their Majesties up for a flight in a Handley Page.

By this time the squadron had got no less than 18 Handley Page machines, but it was decided that the strength of a night bombing squadron should be 10 machines. The squadron was therefore split into two, No. 7 keeping 10 machines and No. 7A having eight.

Afterwards No. 7A became No. 14, R.N.A.S. In August the two squadrons made a mighty raid on Thourout railway station and ammunition dumps near by. The night was splendid for the work, and 14 Handley Pages got home with 189 bombs, aggregating a weight of over 9 tons. A splendid fire was the result, punctuated by explosion after explosion as the ammunition dumps went up. The Germans must have had a hectic night, and their striking power must have been reduced not a little for some time to come. The raids were kept up, and railway traffic in that part of Belgium was sometimes held up for days, and sometimes all traffic had to be diverted over other lines.

In September, 1917, enemy submarines got too active off the mouth of the River Tees, so a flight of four Handley Pages of No. 7 Squadron was sent to Redcar to harass them. They were there for a month, and the official history of the squadron describes their work as successful. This flight was then sent to Manston to form the nucleus of a new R.N.A.S. squadron.

At the end of 1917 Sqd. Com. Babington (now a Group Captain, a Companion of the Distinguished Service Order, and Air Representative at the League of Nations) joined the Air Board. He was succeeded by Sqd. Com. H. A. Buss for a month, and then Sqd. Com. H. Stanley Adams took over the command.

At the end of February, 1918, a Handley Page returning from a night raid was attacked by an Albatros D.5. The observer, Sub. Lt. F. H. Hudson, caught sight of the enemy and shot him down out of control. At night it is usual for a fighter to have much the best of a bomber, but on this occasion the reverse was the case, and the rarity of this victory made it all the more welcome.

On the formation of the Royal Air Force on April 1, 1918, the squadron became No. 207 Squadron, R.A.F., but it remained at Coudekerke for a while and continued its good work of dropping heavy bombs on Bruges and



IN SQUADRON FORMATION : Fairey "Gordons" of No. 207 (Bomber) Squadron. (FLIGHT Photo.)

Zeebrugge, greatly to the annoyance of the submarines there. During the last spring of the war the squadron was withdrawn to Andover to refit with 10 Handley Pages of new type. Under the command of Maj. G. L. Thomson, D.S.O., it then went back overseas to Digescourt aerodrome, near Abbeville, joining the 54th Wing. During the summer the squadron was commanded successively by Maj. T. A. Batchelor, D.S.C., who was injured in a flying accident, and Maj. G. R. Elliot. During the last months of the war the squadron was engaged in bombing

Peronne, Cambrai, and Valenciennes. Then it moved forward with the advance and bombed the railway stations at Liège, Namur, and Maubeuge, so as to harass the German retreat. After the Armistice it remained for a while with the Army of Occupation, but in August, 1919, was reduced to cadre. The cadre was disbanded at Uxbridge on January 20, 1920, but on February 1 the squadron reformed at Bircham Newton as a permanent unit of the Royal Air Force. It has remained ever since at Bircham Newton.



PILOTS OF No. 207 (BOMBER) SQUADRON : From left to right, P/Sgt. Mitchell, P/Sgt. Lawton, P/O. Terdrey, F/O. Bax, Flt. Lt. Ware, Sqd. Ldr. Vachell, Flt. Lt. Crummy, P/Sgt. Gould, and P/Sgt. Goodwin. (FLIGHT Photo.)



No. 210 (F.B.) Squadron

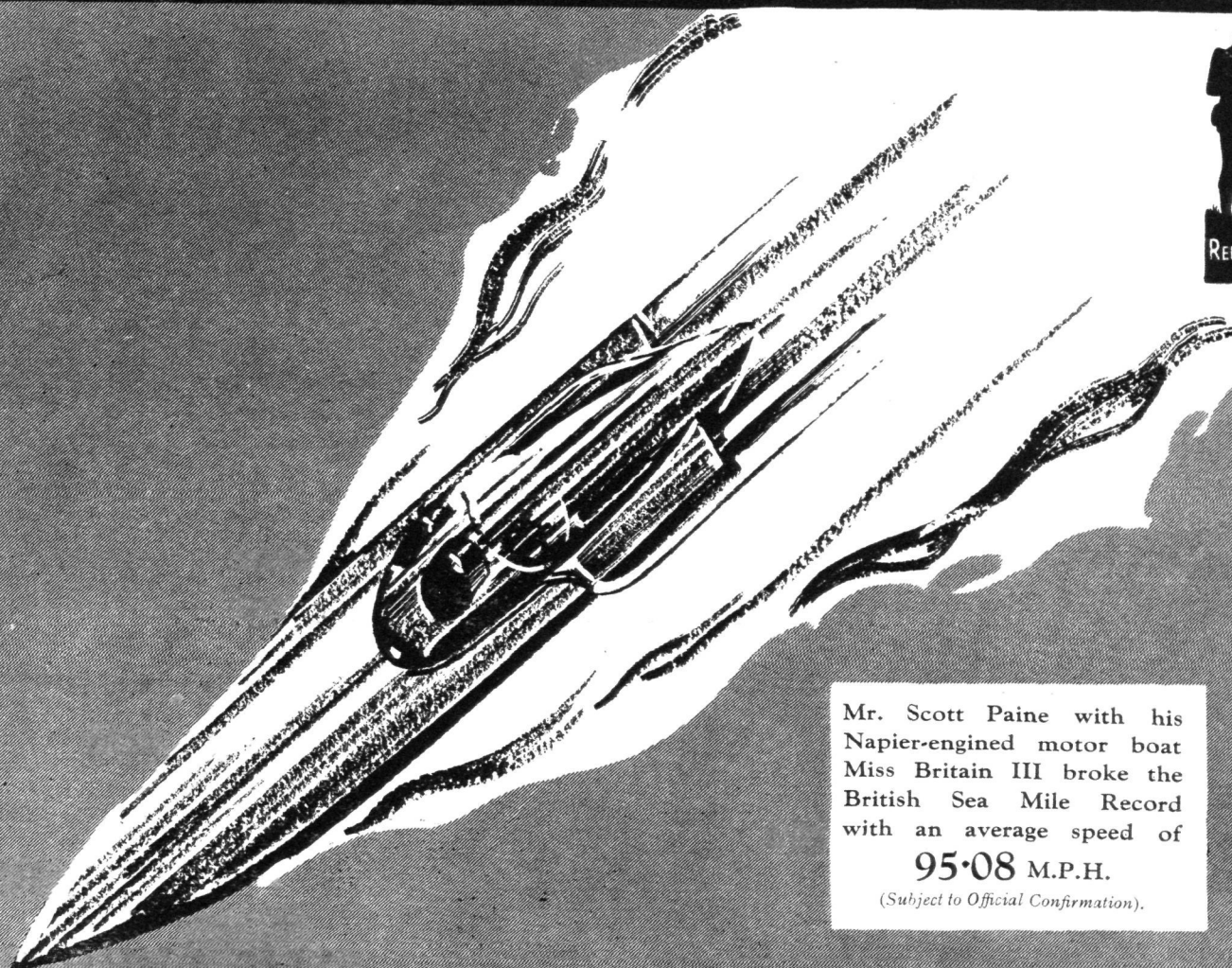
WHEN No. 210 (Flying Boat) Squadron was formed at Pembroke Dock it was temporarily equipped with the "Southamptons" which had been returned from Basra by No. 203 (F.B.) Squadron when the latter received "Rangons." No. 210 has continued to use "Southamptons" ever since, but it has now been decided to re-equip

the squadron with the Short "Singapore 3," four Rolls-Royce "Kestrels." The hulls, we understand, have already been laid down at the Short works at Rochester.

Landing Light at Lypne

A LANDING floodlight is now again in operation at Lypne aerodrome, and the use of Money flares will therefore be discontinued.

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8TH SESSION OF THE C.I.T.E.J.A.

LORD LONDONDERRY, Secretary of State for Air, welcomed on behalf of H.M. Government, at the Foreign Office on Wednesday, October 4, the *Comité International Technique d'Experts Juridiques Aériens*, which held its Eighth Annual Session in London last week. This International Committee, on which over 30 countries are represented, is responsible for the progressive study of private aerial law as a whole and prepares draft Conventions for submission to the International Conference on Private Aerial Law which meets from time to time in different European capitals. Probably the most important Convention so far drawn up by the International Conference was the Warsaw Convention of 1929 dealing with the liability of carriers by air, which was implemented in this country by the Carriage by Air Act, 1932.

Lord Londonderry said:

"It is a great pleasure and a great honour to me, in my capacity as Secretary of State for Air, to welcome to London, on behalf of His Majesty's Government in the United Kingdom, the *Comité International Technique d'Experts Juridiques Aériens*.

"I think it would be only appropriate at an international gathering of this kind that I should mention the outrage perpetrated at Vienna yesterday. I take this occasion to express our gratification at the fortunate escape of the Austrian Chancellor and our sincere wishes that his recovery will be speedy and complete.

"This is the Eight Session of the Committee since its formation in 1926, and I am happy to meet so distinguished a gathering of the representatives of the nations on this, the first occasion upon which the Committee has visited London.

"His Majesty's Government have, from the first, recognised the important character of the work with which the C.I.T.E.J.A. has been entrusted. We have always seen to it that we should be ably and adequately represented at the meetings of the Committee, and it is the earnest hope of the Government that your session in London will be as harmonious and as successful as your previous annual meetings in other capital cities.

"The discovery of the art of flying, and the employment of the aeroplane for personal and private commercial purposes that has followed upon that discovery, have brought with them many new problems for which it is necessary to find a solution if humanity is to reap the full benefit of the new means of transport.

"It was early realised that, in dealing with an instrument of such range as the aeroplane, the questions of the legal rights and the legal responsibilities of private fliers and commercial flying undertakings were of an international rather than a national character. They could, therefore, best be dealt with by international understanding and agreement. The unification of private aerial law on a world-wide basis was recognised as the ideal condition, if this new instrument of social and commercial intercourse were to be developed to the best advantage, and an industry of such high promise for mankind were to avoid unnecessary hindrance to its natural expansion. The legal position of those engaged in flying would inevitably become extremely involved, and even chaotic, if a subject so essentially of general interest were left to be treated on nationalistic and individualistic lines, rather than on an international basis by the common endeavour of the recognised representatives of the nations in periodic conference.

"The first international Conference on the subject of Private Aerial Law was held at Paris in 1925, and was attended by the representatives of over 40 nations. The work of that Conference was mainly directed towards the preparation of an international convention on the liability of carriers by air. The experience of that year was so promising, and the necessity for the continuance of this method of approach to the subject of Private Aerial Law was so generally recognised, that, before it separated, the Conference itself prepared a list of subjects which it re-

commended as the first to be studied. Moreover, it requested the French Government, which had issued the invitations to the first international gathering of this character, to take the preliminary steps necessary to implement that most important and fruitful of its decisions, a resolution which recommended the establishment of a Committee of Experts charged to prepare a continuation of the work of the Conference. I have, I think, very justly termed that a most fruitful resolution, because it was in this manner, gentlemen, that the C.I.T.E.J.A. first came to life in 1926. I am happy to be able to report that from its earliest days it has been a most healthy and vigorous child. The object which it has steadily pursued throughout its comparatively brief existence has been the progressive study of Private Aerial Law as a whole, with a view to drafting further conventions for the consideration of future conferences.

"The C.I.T.E.J.A. is thus essentially a preparatory organisation. In order to deal satisfactorily with its extensive and complicated subject, it has, in its turn, entrusted each one of four commissions, which it has created as sub-committees of its own body, with certain duties of a preparatory character. They have the duty of examining certain aspects of Private Aerial Law, and of reporting to the full Committee from time to time as their study of particular items is complete. Upon the reports thus furnished, the full committee, after the most minute and careful consideration of the recommendations made by the Commissions, makes its own proposals, ultimately to be laid before the Conference when it is next considered that the time has arrived for its re-assembly. It will be seen, therefore, that the various questions are the subject of most elaborate study. Already, as a result of your labours, no fewer than three international conventions have been adopted by the Conference, the Warsaw Convention of 1929, which is a redraft of the convention originally drawn up by the Paris Conference on the subject of the liability of carriers by air; and the two conventions which resulted from the Rome Conference in May of this year, the one dealing with damage caused by aircraft to persons or property on the ground and containing provisions for compulsory insurance; the other dealing with exemption of aircraft, within certain limits, from arrest or seizure in pursuit of private interest. These are highly technical subjects and somewhat difficult of approach for the layman, but none the less of immense importance to the flying industry.

"In addition, there are two further conventions already drafted by the C.I.T.E.J.A. which still await consideration by the Conference.

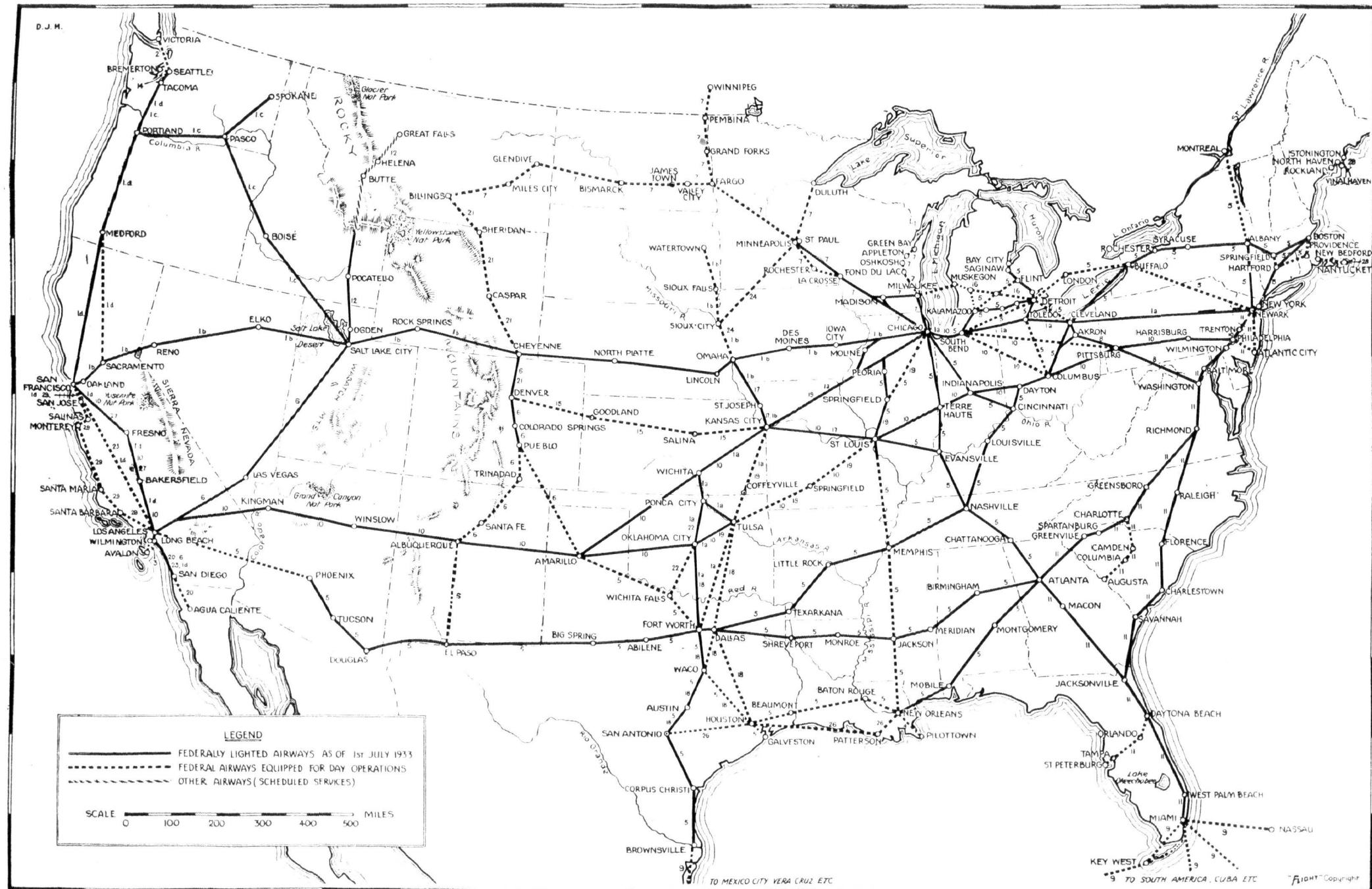
"From all this it will be clearly observed that your Committee is endowed with immense vitality, and has most energetically attacked the tasks for which it was called into being. You, however, who belong to the legal profession and who know the intricacies of the many legal difficulties which are entailed by the adoption and ratification of international conventions of this character by individual governments, on behalf of their countries, will understand that ratification is necessarily a somewhat slow and prolonged process. The adoption of a convention means a careful examination by each government into its effect upon the national law and into the changes in that law thereby made necessary. It is not work of a character that can be hurried, and progress must, of necessity, be gradual. But, speaking on behalf of His Majesty's Government in the United Kingdom, I may say that the Convention of Warsaw has already been made part of our law, and I know that I may promise the most earnest consideration of the conventions adopted by the Conference at Rome, for which your invaluable Committee carried out such thorough and such skilful preparatory work, and a wholehearted support to you in all your labours. Our representatives will most willingly co-operate with the representatives of the other Governments upon the Committee, and I know that they will always be found ready to make their just and due contributions to your most valuable deliberations."



More Landing Grounds

DETAILS of three more landing grounds have just been included in the A.A. Register of Landing Grounds. The first is at Bembridge, and is most conveniently situated close to Whitecliffe Bay, where some of the best bathing in the Isle of Wight is to be obtained. The second is that

adjoining the Lambert Arms, an hotel near Lewknor, Oxon, which always offers the warmest welcome to aviators; except when the field is down to grass, it is always available. The last of these new grounds is one at Lymington in Hants. It will have particular appeal to those who have yacht moorings in the Lymington River.



AIRWAY MAP OF THE UNITED STATES: The numbers against the routes refer to the various operators, a list of which is given on the opposite page.

American air transport service. First among them is the increased willingness of travellers to consider voyaging by air, followed by a general reduction in fares. In the past five years air-passenger rates have been reduced by a little more than 50 per cent. to a present average of about 5.98 cents per mile, or approximately the rail-plus-Pullman rate. This represents a sharp decline from 7.4 cents in January, 1931, and 12.87 cents in June, 1928. The reduction in fares, coupled with the considerable saving in time, has effectively answered the argument that the use of the aeroplane for travel is a form of extravagance.

Another factor is the long distances between most important cities in the Western Hemisphere, which gives the air traveller a great saving in time over the journey by rail, and especially over boats and other forms of transportation. This advantage, in the case of cities not greatly distant, is largely cancelled by the time consumed in travelling to and from airports. For instance, Philadelphia is only forty minutes from New York by air, so the time required to go to Newark and from the Philadelphia airport into the city brings the elapsed time almost to railroad schedules.

Last year about \$5,000,000 was expended on new terminals, hangars, lighting equipment and other installations at airports and on airways. While some ports were abandoned because of business conditions, poor locations or inadequate demand, the Department of Commerce reported 41 new municipal, 28 new commercial and 91 new auxiliary fields. In the United States, on July 1, 1933, there were 550 municipal and 653 commercial airports, 269 Department of Commerce intermediate landing fields, 525 auxiliary fields, 55 Army aerodromes, 16 Navy air stations, and 68 miscellaneous Government, private and State airports and landing fields, making a total of 2,136. Of these, 631 airports are fully or partially lighted for night use, constituting over 90 per cent. of the world's lighted airfields.

The Federal Government is now operating, in the United States, 19,500 miles of lighted and radio-equipped airways; along the routes used at night, 1,623 revolving and 365 flashing beacons have been installed at intervals of 10 to 15 miles. In addition to 228 privately-owned beacons, the Government has installed and is now operating 61 radio communication stations, 68 radio range beacon stations and 74 radio marker beacons.

SUMMARY OF AIR TRANSPORT OPERATIONS

Year	Operators	Planes in Service	Miles Scheduled	Miles Flown	Passengers	Passenger Miles	Express (pounds)	Mail (pounds)
1926	19	95	—	4,608,880	5,782	—	6,467	433,649
1927	24	144	—	5,242,839	12,594	—	12,495	1,222,843
1928	32	294	—	10,472,024	52,934	—	35,376	3,632,059
1929	27	619	—	20,242,891	165,263	—	197,538	7,772,014
1930	35	685	30,703,119	28,833,967	385,910	94,545,784	286,798	8,513,675
1931	41	720	47,463,673	43,395,478	457,753	116,232,153	885,164	9,351,195
1932	33	655	51,932,868	48,344,358	504,575	143,169,682	1,324,428	7,658,332

HULL—HOLLAND AIR SERVICE

IT is announced that the Royal Dutch Air Lines (K.L.M.) will operate a daily service from Hull (Hedon Aerodrome) to Holland in the comparatively near future. The inauguration of this service depends in some measure, however, upon the Hull Municipal Authorities grasping the opportunity of making the city an important future airport by providing suitable hangar accommodation and other facilities. The line should prove an important one, not only to Hull, but also to the North of England, for there can be no doubt that the presence of excellent Continental connections by air will encourage a demand for internal "feeder" air lines to Hull. During summer this service will link Hull with Rotterdam, Amsterdam, Berlin, Copenhagen, Malmö, Prague, Vienna, and Hamburg in a single day's flight, and, according to

a recent announcement, with Oslo also. Moreover, the service, which will probably leave Hull at 7 a.m. daily, will link that city with the Amsterdam-Batavia service once a week. In this country municipalities have not been slow, in many cases, to realise the advantages of possessing an up-to-date airport, but few have been offered immediate and far-reaching air connections such as will be provided by the K.L.M., whose reputation for efficiency and good organisation is too well known to need comment here. In these days, too, of "wild cat" air ventures it must be comforting to the City Fathers of Hull to know that the Royal Dutch Air Lines is the Netherlands national company, subsidised by the Government, which, it is believed, has sanctioned the Hull-Holland air line.

London to Cairo Aerial Tour

IMPERIAL AIRWAYS have arranged an aerial cruise from London to Cairo and return, a distance of about 6,000 miles, which will be accomplished in seven days. The passengers left Croydon on Tuesday, October 10, in a 42-seater Handley Page machine *Helena*, and will fly by way of Paris, Marseilles, Rome, Malta, and the north coast of Africa, Cairo being reached on Friday, October 13. The return flight will be made by way of Athens, Brindisi and Paris, London being reached on Tuesday, October 17. If passengers so desire, they may stay in Cairo and return by any African or Indian air mail machine. The fare for the whole tour will be £42.

B. & P. Aeroplanes for Imperial Airways

BOULTON & PAUL, LTD., of Norwich, announce that they have received a contract from Imperial Airways, Ltd., for two small twin-engined passenger aeroplanes. The machines are in the design stage, and no further details are yet available.

Madras Air Taxi Service

THE Madras Air Taxi Service was recently started by Raja Krishna Rao and Raja Bhujunga Rao. The service is the first of its kind in India and is intended to take passengers from Madras or elsewhere to any part of India and Burma. Flights are arranged from Madras and to

places where there are suitable landing grounds. The company has on hand three comfortable aeroplanes (a single-seater, a two-seater and a three-seater), and has proposed to arrange special all-round-India trips at special rates. The fare from Madras to Bombay for a single passenger is Rs. 510, which includes the detention charge for three extra days. The company arranges for insuring the lives of those who choose to do so to the extent of between Rs. 10,000 and Rs. 20,000. Among the places to which the service will be available are Agra, Ahmedabad, Allahabad, Bangalore, Baroda, Bellary, Benares, Bombay, Calcutta, Cawnpore, Chanda, Delhi, Gaya, Hyderabad (Deccan), Jhansi, Jodhpur, Jubbulpore, Karachi, Lucknow, Nagpur, Poona, Quilon, Raipur, Sholapur, Trichinopoly and Vizagapattam.

Portsmouth, Southsea and I.O.W. Services

OWING to pressure on our space we have been unable to publish traffic figures of the Portsmouth, Southsea & Isle of Wight Air Ferry Services for the last three weeks. The number of passengers carried during the last three weeks in September were:—

Spithead Air Ferry between	Ryde and Portsmouth ..	933
Shoreham Air Ferry "	Portsmouth and Shoreham	29
Shoreham Air Ferry "	Shoreham and Isle of Wight	15
Shanklin Air Ferry "	Portsmouth and Shanklin ..	62
Shanklin Air Ferry "	Ryde and Shanklin	62

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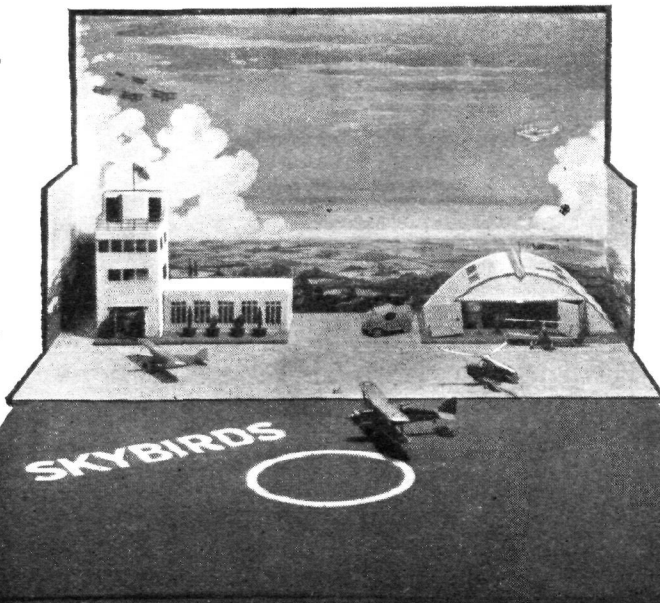
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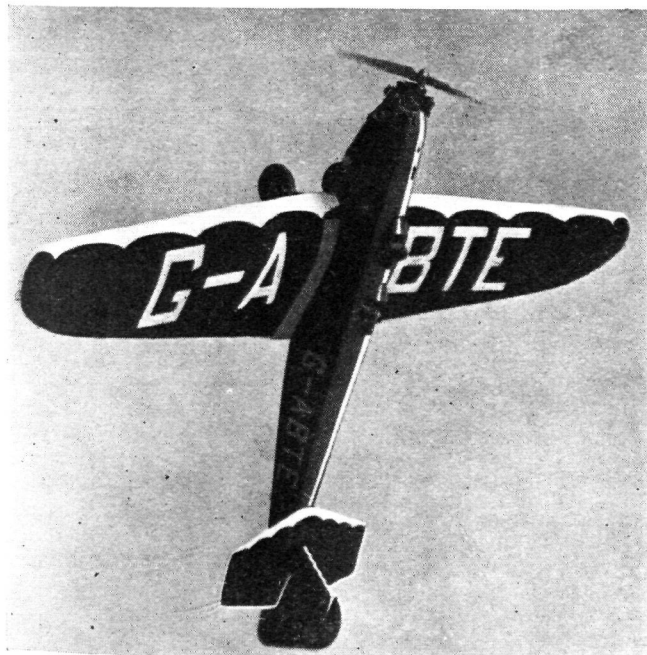


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"Flight" Photo

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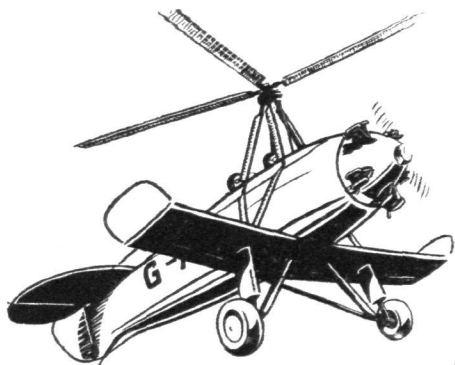
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From the Clubs.

BROOKLANDS SCHOOL OF FLYING

A slight improvement in the weather conditions has resulted in an increase of flying, 50 hr. dual and 80 hr. solo having been done. New members who joined during the week included Mrs. Lowther, Capt. Cullen, Messrs. Morris, Madhurst, Davis, A. D. Evans, and Ramsay-Grass; Lady Hoare has also been having intensive dual. Cross-country flights were carried out to Hooton, Manston, Lympne, and Northampton. Mr. R. Lezard carried out his first solo, Mr. Needham his "A" licence tests, and Mr. D. Ahlers is sitting for his 2nd Class Navigator's licence. Capt. Ledlie has carried out taxi flights to Strasbourg, Rheims, Sarriburg, Paris, and Andover. Three interesting competitions are causing a good deal of enthusiasm, the "Ted Jones" Trophy, the "Hart" Trophy, and the "Shipwright" Trophy. Among visitors during the week was Mr. Carl Brisson, who showed great interest in the Club. The Repair Department are very busy, having worked overtime for the past two months, and among privately owned machines undergoing C. of A. is Lord Furness's "Puss Moth." Flt. Lt. Ulm's machine is still housed at Brooklands. A very successful dance, well attended by members, was held at the Club on Saturday, October 7; the next one will be held on Saturday, November 4, which will be followed by a fireworks display.

NORTHAMPTONSHIRE AERO CLUB

Flying during the week has been somewhat restricted by bad visibility, the total being 17 hr. 50 min. Mr. Dennis Smith accomplished an excellent first solo, but his instructor's hair is rapidly turning grey. Mr. Frank Wilson finished his tests for an "A" licence and has departed up North. The "Tramps' Party," which was held on Friday, October 6, was a great success, about 100 members and friends attending in most tramp-like attire; a real coffee stall provided refreshment. On Friday, October 13, there will be a "When we were young party," when members will attend as children under the age of six. Visitors during the week included Messrs. T. Campbell Black, Roy Winn of Leicester, D. Winn of Tollerton, W. Sutcliffe of the Midland Club, and the Master of Brooklands with Mr. Van Marken from Amsterdam. Among recent new members is Mr. V. W. C. Jupp, the well-known England and Northants cricketer.

NORFOLK AND NORWICH AERO CLUB

Instruction was given by Mr. Collier to Miss Nancy Deacon, Messrs. J. C. Smith, G. R. F. Clarke, and F. W. Rushmer, and first solos were done by Miss W. F. Hudd, Capt. J. Dawson Paul, Messrs. S. Hansel, J. C. Smith, and W. O'Brien. During the week photographs were taken of the Bolton and Paul Mail machine, which has carried out its final tests; also a Club machine assisted the police in searching for the convict who escaped from Norwich prison. For the Annual Ball, which is being held on Friday, November 3, over 80 tickets have been sold already.

LINCOLNSHIRE AERO CLUB

The Lincolnshire Aero Club has 14 members in training, there being one new pupil, Miss B. Pearson. Flying times totalled 4 hr. 45 min. dual and 1 hr. solo. The weather has been almost impossible for Club flying, but the Hull Air Ferry carried 102 passengers. The dance in the club-house on Saturday, October 7, was very successful.

LONDON AEROPLANE CLUB

From October 1 to October 6 flying times totalled 62 hr. 40 min. Mr. R. B. K. Bridges has completed his tests for an "A" licence and Mr. R. D. Blackwell has been solo. Mr. A. C. Upham, who has recently returned from Canada, where he was Superintendent of the Provincial Air Service, has joined the Club, and is renewing his "A" licence. He intends to promote an air service in the Channel. Dr. Mintzman has bought a Miles "Hawk," and is having dual on it. Members are finding the long runways at Hatfield a great improvement on Stag Lane.

CINQUE PORTS FLYING CLUB

Fog and low clouds have curtailed flying during the past week, the total flying done only amounting to 25 hr. 15 min.; five pupils have also obtained "A" licences and left the vicinity, which also detracted from the total. Lady



LIKE FATHER, LIKE SON: Capt. J. Dawson Paul, Chairman of Boulton & Paul, Ltd., with his son, Mr. F. Dawson Paul, who has just got his pilot's certificate, at Norwich Aerodrome.

Hoare is continuing instruction at Lympne while on holiday at Folkestone, and two new pupils are Messrs. Findley and Bailey. Several members braved the cold of the early morning to see Sir Charles Kingsford-Smith off on Wednesday, October 4, and on Thursday, October 5, an Imperial Airways machine landed with a party of Ziegfeld Follies girls on board; several other machines were also compelled by the fog to land at Lympne during the week. Mr. Jackaman's "Monospar" has been at Lympne for a few days having one engine changed, and was flown to Heston by Mr. Brown as soon as repairs had been finished. Members will be interested to hear that a Club tie has been designed; it is blue with maroon stripes on a silver background, and will be obtainable at the Club. The Committee are planning a Club dance which will be held in November. During the month of September 174 hr. 45 min. flying was done, eight members went solo and five members obtained "A" licences.

LEICESTERSHIRE AERO CLUB

During September 91 hr. were flown. Visiting machines numbered 34, and among visitors was Mr. J. A. Wilson, the D.C.A. in Canada, who flew to London in a "Tiger Moth." Mr. R. C. Winn, flying the Club's "Puss Moth," was placed third in the Nottingham Journal Reliability Trial. Further experiments in air reconnaissance have been carried out by the Leicestershire Constabulary. One member of the Club, on return from a flight, reported having seen an old Avro trailing long banners on which was written the strange device "Eat Batchelor's Peas." First solos were done by Messrs. F. Salmon, S. C. Wildgoose and N. F. Engleton, the latter also obtained an "A" licence.

HANWORTH (N.F.S.)

Flying times for the week totalled 47 hr. Night flying was done by Mr. Naish, 1 hr. 15 min., and by Lord Carlow, 1 hr. 15 min. A first solo was done by Mr. R. Wheeler, who is on holiday from Canada. On Thursday, October 5, Capt. Wilson flew from Hanworth to Nottingham and Farnborough and return with two passengers in one of the N.F.S. Desoutters, averaging 103 m.p.h. throughout the trip. Mr. Beardmore returned from Germany in his Junker, which he took across for its C. of A.,

and brought back Mr. Uebele. The Master of Sempill flew to Beauvais for the unveiling of the Memorial to the victims of the R.101 disaster. On Monday, October 2, the Vacuum Oil Co.'s D.H. "Dragon" left Hanworth for Australia, piloted by Mr. White; it is expected that the machine will be away for over two months. An interesting visitor who is staying at the clubhouse is Mr. Ray, who is the Chief Test Pilot and one of the Vice-Presidents of the American Autogiro Corporation.

YORKSHIRE AEROPLANE CLUB (N.F.S.)

Club machines flew about 37 hr. during the week ending September 23, 29 hr. during the week ending September 30, and 28 hr. during the week ending October 7. On Saturday, September 23, the Hospitals Air Pageant was held at Yeadon. Visiting machines included a "Gipsy Moth" of the Norwich Aero Club, a "Fox Moth" of the Hospitals Air Pageant, and an Avro "Cadet" of the Scarborough Aero Club, with Maj. Shaw. New members are Mr. L. Heath and Mr. S. Y. P. Gardner, both are flying members. "A" licences have been obtained by Messrs. S. P. Gardner, R. H. Braime, and Ten Bos, of Holland.

CARDIFF AEROPLANE CLUB

During the week ending Saturday, October 7, the flying times totalled 10 hr. 35 min. dual, 5 hr. 20 min. solo and 25 min. tests.

MAIDSTONE AERO CLUB

The school has now three machines available. The first dance of the season will be held on Saturday, October 28, tickets 10s. 6d. double and 6s. single.

JODHPUR FLYING CLUB

During the month of July the Club put in 14 hr. 20 min. dual and 25 hr. 10 min. solo. The Club are now equipped with three "Moths" and two "Monospars."

MADRAS FLYING CLUB

A total of 103 hr. 50 min. was flown during July, and 2 hr. 15 min. at the Trichinopoly Branch. On July 12 the instructor and Mr. P. A. Prior were unfortunate enough to suffer a slight mishap to the "Gipsy Moth." When returning from Bangalore they were delayed by rain and low clouds, so that by the time the aerodrome was reached it was dark. The aerodrome was found all right, but the machine was landed short of it, and ran into a bunker with resultant damage to the undercarriage. During the month the Club machines went off on a joyriding expedition in South India, which was quite a success. At the third annual general meeting Mr. K. R. Simpson was for the third time elected chairman.

KATHIAWAR FLYING CLUB

Times for the month of July totalled 32 hr. 55 min. dual and 23 hr. 20 min. solo. Four machines are in commission, two "Gipsy II Moths," a "Puss Moth" and a Mk. IV Blackburn "Bluebird." Joyrides were given to 58 passengers. Two pilots, Messrs. H. M. Dave and H. D. Lashkari, qualified for licences.

KUALA FLYING CLUB

The flying times for the month of July amounted to 139 hr. 45 min., there having been three machines in use, "Gipsy Moths." One of the Club machines has recently been fitted up with blind-flying equipment and night-flying equipment. Cross-country flights were made during the month to Taiping, Port Dickson and Bahau. A combined meeting with the Singapore Flying Club was arranged for August 27.

AERO CLUB FOREZIEEN ET VELLAVE

In June of this year the Aero Club Forezien et Vellave inaugurated their airport at St. Etienne. This aerodrome is open to all machines, and no landing fee is charged; it possesses a huge metal shed, which will house a large number of machines. St. Etienne is the eighth largest town in France, and is about halfway between Paris and Marseilles. The weather round about this part of France is exceptionally clear of mists during the whole year, and aviators will find themselves very hospitably received and well looked after.

GLIDING AT SUTTON BANK

This year's meeting was held on October 7 and 8 at Sutton Bank, on the Hambleton Hills, 30 miles N.E. of York.

There was one class of entries only, and the competition was in four main events:—Distance, altitude; distance "out and home"; and duration.

Out of 15 entries, 12 sailplanes took part, nine being of British manufacture. Keenness was shown by entries from the distant clubs of Ulster and Dorset.

The Sutton Bank site is one of the best in the country and superior to last year's site at Askam-in-Furness. The

range of hills, about 750 ft. high and nearly 1,000 ft. above sea level, faces almost due west with spurs facing N.W. through W. to S.

The first day opened with thick mist and no wind. Towards midday the mist cleared and a gentle wind blew from the S.E., but soaring flight was not possible.

After a heavy downpour during the night, Sunday's weather held little promise for success, a heavy fog covering the moors with a visibility of about 5 yd. However, by about 10 a.m. the fog was dispersed by a moderate wind from the S.W., which held throughout the day.

No time was lost getting into the air and almost all day six or eight sailplanes were soaring near the Hambleton Hills. Thirty-two flights were made, with a total flying time of over 30 hr.

In the "out and home" contest six flights of over 4½ miles each way were made. The winner was P. A. Wills, in a "Scud II." He flew 5½ miles each way, from the "White House," near Kilburn, to a point N.E. of Thirsk Reservoir, thus gaining the Manio Cup, offered for this event with a minimum performance of 5 miles each way.

The duration competition was won by Flt. Lt. G. M. Buxton, also on the "Scud II," with 2 hr. 39 min., followed closely by H. Crabtree, in a "Hols der Teufel," with 2 hr. 30½ min.

The minimum time to qualify for the Volk Cup was 5 hr., so this award will go to the pilot having made the longest flight in the previous 12 months. Subject to official confirmation, this is Flt. Lt. E. L. Mole, who flew at Dunstable on June 30 for 6 hr. 55 min.

Four pilots went on distance flights and were still away when darkness fell. These were J. Laver in the "Dorsling"; G. A. Little in the "Tern"; McClement in the "British Falcon," and H. C. Wynn in the Ulster Club's "Scud II." Conditions were far from ideal for long-distance flights, the pilots also delaying their start to take part in the other events, so no great distances may be expected, but Little was reported passing over Kewich, about 9 miles away. The minimum distance to qualify for the Wakefield Cup is 15 miles, failing which a similar proviso holds as for the Volk Cup. The best British flight to date was carried out on August 23 this year, by G. E. Collins, with a flight of 22 miles from Dunstable to near Barnet.

Results of the altitude event for the de Havilland Cup will not be available until the barographs carried by the four pilots on the distance attempts are available.

An interesting feature of the meeting was the communication between the observing officials and the pilots in the air by means of the broadcasting unit. Twice this was useful. Once when Wills was informed that he must fly round the "White House," an observation control, and once when Buxton flew low to ask for interpretation of one of the competition regulations.

The standard of pilotage showed a considerable increase over previous competitions, and there was not a single casualty to pilots or machines. Great interest was shown by the public, who numbered about 5,000 on Sunday.

C. H. L.-N.

GLIDING IN RUSSIA

The 19th All-Union Conference on Gliding, which has recently been held in the Crimea gives a clear indication of the extent to which gliding has been developed in the Soviet Union. Many types of gliders were gathered together, including the tailless types constructed by the Soviet engineer, Charonovsky. This type is claimed as a sample of high technical achievement in glider construction and was judged the best at the conference. Pilot Simikov glided for a distance of 49 km. (30 miles 1,100 yd.), and attained a height of 2,750 metres (over 9,000 ft.), which is claimed as a world's record. Pilot Anokhim performed the most interesting straight-line flight, covering a distance of 60 km. (37 miles 880 yd.), and then returning to the starting point. The same pilot also made a record continuous flight, remaining in the air for 17 hr. Pilot Yudin flew over the Orenburg-Moscow-Kotbel route, a distance of 3,000 km. (1,375 miles) towed by an aeroplane, and Pilot Pleskov also made a long flight towed by an aeroplane.

The year 1933 marks a turning point in the history of Soviet gliding, which has become a very popular sport. At the end of this year, it is claimed, the Soviet Union will possess 30,000 trained glider pilots and by the end of the second Five-Year Plan it is hoped to increase this number to 500,000. The courses which have been organised in gliding at the factories and elsewhere are all being well supported. Gliders are now being employed to carry mail between Koktobel and Sinferopol.

AVIATION BOHEMIANISM

NOWADAYS the true Bohemian spirit seems unfortunately to be dying out—if not to have died out. We have in its place a vapid collecting of effeminate youths and gory-nailed women, who like to be thought all “arty,” in cramped places around Chelsea. One bright spot which has, however, kept the old order is the Ham Bone Club, and since it took under its wing the Junior Aero Club—or perhaps it would be better to say since the wings of the latter spread over the former—this true brand of Bohemianism with all its advantages has been added to the lighter moments of the aviation fraternity. It has brought about a mingling of the “higher” and the “lower,” which is all to the good and has established itself, with its periodical dinners, as one of the places which make you forget the cares and troubles of this life.

A dinner which was in no way less enjoyable than its many predecessors was that held on Tuesday, October 3. Ostensibly the Second Annual (King's Cup) Dinner, it was in reality a reunion of several of the older generation, whom we have to thank for pioneering this work and hobby of ours, namely—flying!

Lt. Col. J. T. C. Moore-Brabazon was in the chair, with Capt. Geoffrey de Havilland and Capt. E. H. Lawford as the guests of honour. The former, as all our readers know, was the winner of this year's King's Cup Race, and therefore entitled to all the adulation which he gets. For he is both a pioneer in the truest sense of the word and yet still hale enough to step in against younger men and win this, the premier race of the year, with the latest product of his own brain and factory.

“Bill” Lawford is a pioneer of another sort. He may be said to have started commercial aviation in this country, as he was the pilot who flew the first regular “air-liner” between this country and Paris; also like de Havilland he was flying before the war. Now he directs the destinies of others who work on that cross-Channel route, as he is one of the control officers at Croydon Airport.

Others who were honoured during the evening were: Mr. Stanley Spooner, a pioneer if ever there was one; Mr. Hubert Scott Paine, fresh from his magnificent attempt to bring back the British International Trophy for Motor Boat racing to this country, and Maj. C. C. Turner, a balloon and aeroplane pilot of the very earliest days who now gives the readers of the *Daily Telegraph* some

of the most balanced articles on aviation that it is one's pleasure to read in the daily papers.

Col. Moore-Brabazon, himself the holder of the Royal Aero Club's aviator's certificate No. 1, commented upon the fact that most pioneers were to a certain extent madmen. He visualised the aircraft industry as alternating between potential bankruptcy and 1,000-ton yachts, and in introducing the guests of the evening recounted how, some 24 years ago, he had sold a shed above Newbury to Capt. de Havilland, who although he had now reached his 50th year was still not too old to win races.

Capt. de Havilland returned thanks for the evening's hospitality on behalf of himself and Mrs. de Havilland, but due to his customary modesty could not be brought to discuss himself. He diverted the talk to the deeds of Col. Moore-Brabazon, and told how that pioneer was the first to take a pig up with him so that people could no longer, in truth, say “pigs might fly.”

“Bill” Lawford deprecated the insinuation that there was anything out of the ordinary in his feat in flying the first commercial machine of the Holt Thomas organisation to Paris. He told a little of the troubles which they have on the Control Tower at Croydon, and reminded everyone that the number of pioneers who have “passed on” is far larger than the number of those whom we still have with us.

Mr. Stanley Spooner, in reply to the toast of the aeronautical Press, proposed by Mr. Geoffrey Dorman, recalled how he started in the game by a series of articles on aviation matters in his paper, the *Auto*, as far back as 1899. Then in 1909 *FLIGHT* became an established Journal, despite the number of friends who said he was mad to start it, and who all prophesied failure.

Maj. C. C. Turner thought that we had passed through three whole generations of flying during the last 30 years, and marvelled at the rapidity of change in aeronautics.

Mr. Hubert Scott Paine recapitulated, with all modesty, his recent motor boat race with Commodore Gar Wood, although he declared he had not an iota of modesty in him, and in his usual inimitable style told of the difficulties with which he had to contend. Once again he announced his intention to build another challenger for the Trophy, and expressed the hope that he would not this time encounter so much opposition when he wanted to get more “horse-power” to put in his boat.



ASSOCIATED LIGHT AEROPLANE CLUBS

A General Council Meeting of the Royal Aero Club Associated Light Aeroplane Clubs was held at 119, Piccadilly, London, W.1, on October 5. There were present:—Royal Aero Club, Flt. Lt. C. Clarkson, W. Lindsay Everard, M.P.; Bristol and Wessex Aeroplane Club, A. H. Downes Shaw, Capt. L. P. Winters; Hampshire Aeroplane Club, W. L. Gordon; Hanworth Club, Col. the Master of Sempill; Household Brigade Flying Club, R. L. Preston; Leicestershire Aero Club, R. C. Winn, D. D. Longmore; Liverpool and District Aero Club, P. Warner Bond, Maj. R. H. Thornton; London Aeroplane Club, H. E. Perrin; Midland Aero Club, Maj. G. Dennison; Newcastle-on-Tyne Aero Club, B. M. Dodds; Scarborough Aero Club, W. R. Baynes; Southern Aero Club, C. Titterton; York County Aviation Club, H. R. Humphries. In attendance, H. E. Perrin, Secretary to the General Council.

Mr. A. H. Downes Shaw (Bristol and Wessex Aeroplane Club) occupied the chair.

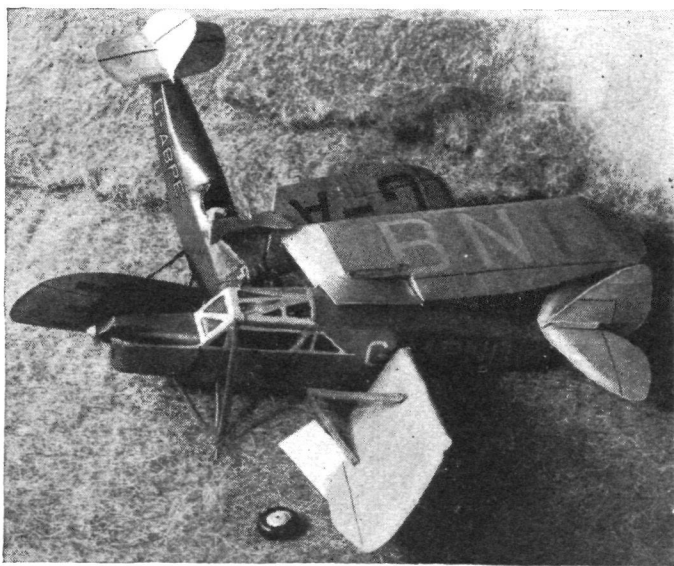
The York County Aviation Club were unanimously elected to the General Council.

Convention as to Liability for Damage caused to Third Parties on the Ground.—The report of the Sub-Committee was considered and approved and directed to be forwarded to the Air Council.

Committee on the Control of Private Flying.—The General Council discussed the proposals to be submitted to the Gorell Committee on October 26, 1933, and appointed the following representatives to give evidence on behalf of the General Council:—Maj. K. M. Beaumont, London Aeroplane Club; A. H. Downes Shaw, Bristol and Wessex Aeroplane Club; Maj. R. H. Thornton, Liverpool and District Aero Club; Flt. Lt. C. Clarkson, Royal Aero Club.

High Radio Masts at Droitwich

PILOTS are warned that two radio masts which, when completed, will be 100 ft. in height above ground level, are in course of erection near Droitwich, Worcestershire, Latitude 52° 18' N., Longitude 2° 06' W. The masts are, at present, approximately 260 ft. high, and their height is being increased at the rate of approximately 60 ft. weekly.



RAMMED BUT REPAIRABLE: This crash occurred last week under convenient circumstances for our photographer to get this unique view. Luckily there were no lives lost. Close attention to the photograph will show that it is rather unusual in fact . . . (See page 1038 for further details.) (FLIGHT Photo.)

Cirisms from the Four Winds.

Kingsford-Smith's Australian Flight

As was reported in FLIGHT last week, Air Commodore Sir Charles Kingsford-Smith left Heston for Lympne on Tuesday, October 3, flying a Percival "Gull," with a "Gipsy Major" engine. At dawn on Wednesday, October 4, he left Lympne for Brindisi on the first stage of a flight to Australia. Before he left, Kingsford-Smith is reported to have stated that he was not out to beat the record for a flight from England to Australia, which at present is held by Mr. C. W. A. Scott, who took 8 days 20 hr. His "Gull" has a cruising speed of 120 m.p.h. and has a fuel range of 16 hr. The progress of the flight up to the time of going to press is as follows: Brindisi was reached on the afternoon of Wednesday, October 4; at dawn on Thursday, October 5, he left Brindisi and arrived at Baghdad during the afternoon of the same day; on Friday, October 6, he left Baghdad, landing at Gwadar, Baluchistan, in the evening of the same day. During the morning of Saturday, October 7, he reached Karachi. About midday on Sunday, October 8, he arrived at Calcutta and, after spending about 30 min. on the ground for re-fuelling, took off again for Akyab, which he reached later in the same day. At dawn on October 9 the flight was continued to Alor Star and Sourabaya was reached at 6.23 a.m., October 10.

The Mollisons Returning Home

MR. AND MRS. MOLLISON have now definitely decided to abandon their attempt to beat the long-distance record by a flight from Canada to Baghdad, and are returning home. On Tuesday, October 3, they attempted to take off from Wasaga Beach, Ontario, the weather being favourable enough for an attempt on the Atlantic crossing. According to reports, Mr. Mollison made one attempt to get the machine off the deck, but was not successful, a second attempt also failed, the third attempt was a little more successful, for the machine did actually leave the sand, but only for a few feet, it then sank back and, on



KINGSFORD-SMITH'S AUSTRALIAN FLIGHT : Sir Charles Kingsford-Smith and his Percival "Gull" ("Gipsy Major"), *Miss Southern Cross*, in which he is making a flight to Australia.

hitting the ground, twisted its undercarriage. So *Seafarer II* is being dismantled and packed up again for another trans-Atlantic trip, but this time in a nice comfortable boat. Incidentally, *Seafarer II* will be able to claim a new record when she arrives back in England—the first aeroplane to do the double crossing of the Atlantic on board ship.

To Aid the Gorell Committee

A MEETING was held at the Royal Aero Club on Thursday, October 5, in order to elect three persons from among those interested who can answer question concerning the point of view of those using private aircraft, before the Gorell Committee. Those elected were Maj. H. J. Petre (R.Ae.C. nominee), W. L. Runciman and Mr. F. D. Bradbrocke.

Another British Record for Italy

ANOTHER record has crossed the Continent to find a new home among our good friends the Italians. On Sunday, October 8, Lt. Col. Cassinelli flew over 100 km. at an average speed of 629.37 km. (391 miles) an hr. This record was hitherto held by Flt. Lt. Boothman, with an average speed of 344.87 m.p.h. Lt. Col. Cassinelli is a member of the Desenzano High-Speed Aviation School. He was flying a Macchi seaplane fitted with a Fiat engine of 2,400 h.p. The flight was done over a triangular course—Ancona-Pesaro-Falconari—and was checked up under the control of the International Aviation Federation.

R. 101 Disaster

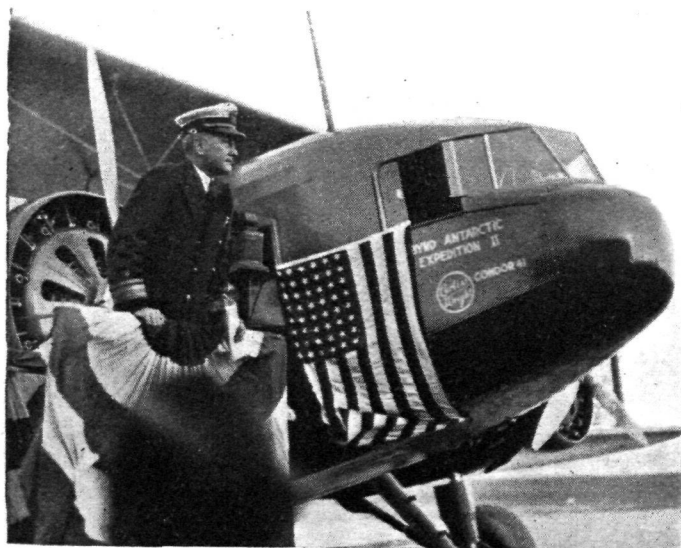
On Thursday, October 5, a memorial service was held at Beauvais Cathedral for the victims of the R 101 disaster. Capt. Fitzgerald, R.N., the British Naval Attaché, represented Lord Tyrrell.

Special Charter to Australia

MENTION was made in FLIGHT for last week of an intended flight to Australia by Capt. W. P. Crawford Greene in a "Spartan" Cruiser. Mr. Greene, who is M.P. for Worcester, left Persiwell Park, Worcester, on Monday, October 9, piloted by Mr. Lynch Blossie. Mr. Greene flew to Heston and from there proceeded to Lympne, whence he set out for Australia at 6.50 a.m. next day. He intends to make an extensive tour of Australia, and will probably be away for about two and a-half months.

French Airwoman's Flight

MLLE. MERYSE HILSZ, who set out from Paris on Thursday, October 5, to fly to Tokio, reached Vienna, but from there returned to Paris, as the weather was not good enough.



BYRD'S ANTARCTIC EXPEDITION : Rear Admiral Richard Evelyn Byrd tells his plans for the Second Expedition into the Antarctic wastes to an audience that gathered at the Boston Airport on September 29 for the christening of one of the Curtiss "Condors" he is taking with him. This plane, the *William Horlick*, has been named after one of the sponsors of the Expedition.



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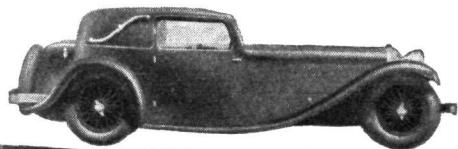
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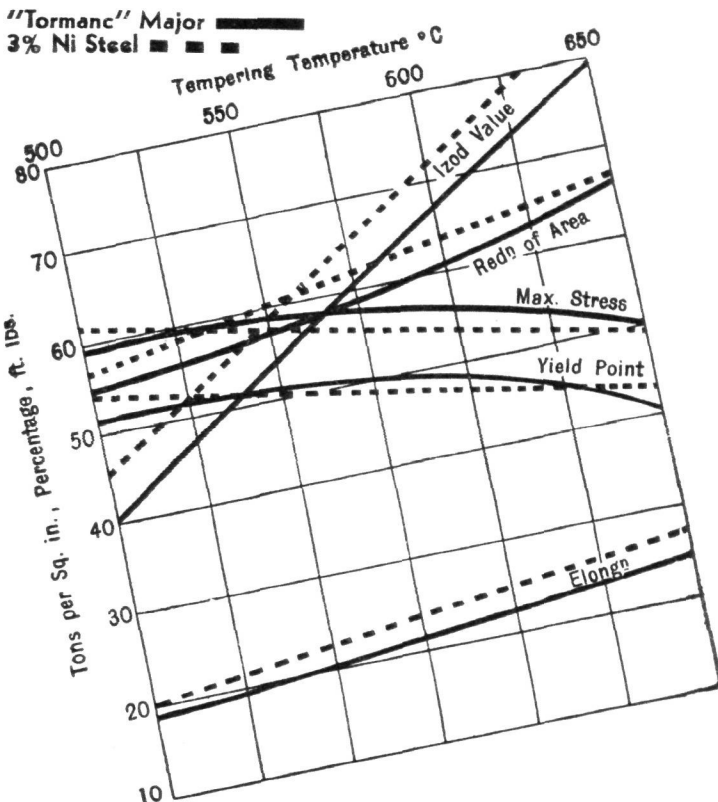
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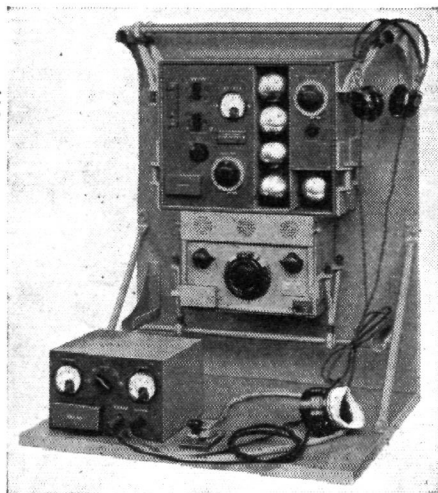
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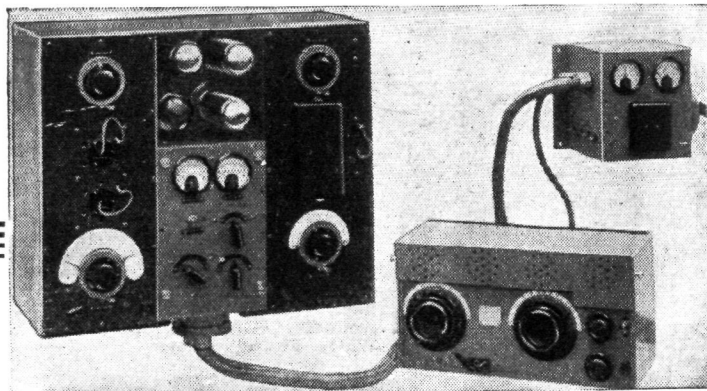
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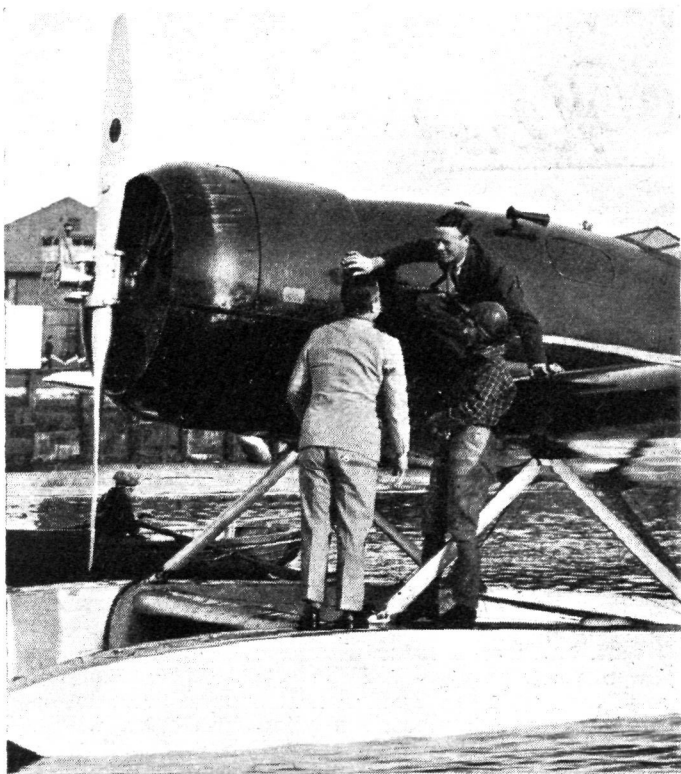
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THE LINDBERGH'S IN ENGLAND : Col. and Mrs. Lindbergh flew from Norway to England on October 4. They are here seen after their arrival at Woolston, Southampton, about to go ashore—with the assistance of Maj. Brackley.

French Long-Distance Attempt

THE two French pilots, Lt. Assolant and Lt. Lefevre, who were attempting to beat the long-distance record, by a flight from Oran, Algeria, eastwards, landed at Karachi on Thursday, October 5, after having flown 4,125 miles in 36 hr. They ran short of petrol.

The Lindberghs

COL. AND MRS. LINDBERGH arrived at Southampton on Wednesday, October 4, by air from Norway. Later they were reported to have gone to Cardiff.

Aero Engine Falls Out

A PECULIAR accident happened at Baghdad on Friday, October 6. While a French three-engined Fokker was taking off the starboard engine suddenly fell away from the machine and dropped a distance of about 30 ft. The pilot was happily able to land the machine with the help of the other two engines, and no one was injured, though the undercarriage of the machine was smashed. The accident was apparently due to one of the propeller blades breaking, and the resultant vibration shook the engine off its seating. Within 6 hr. of the accident a relief machine had arrived from Damascus and the passengers and baggage were once again in the air on their way to Europe.

Flt. Lt. Ulm's Flight

FLT. LT. ULM has decided to abandon his attempt at flying round the world, and will return to Australia as soon as possible.

A Dirty Trick

A THEFT of the most amazing nature has just been brought to our notice. Mr. H. White, flying the Vacuum Oil Co.'s "Dragon," left Hanworth Park for the Far East, on Tuesday morning, October 3. On Monday afternoon his mechanic rang up and asked him whether he had been down to the machine, as the door lock

had been damaged and the maps were not in the cabin. Mr. White had not taken them and, incredible though it may seem, someone had broken into the machine and taken nothing else except these strip maps for the route to Penang. What good they would be one cannot guess. These maps had been prepared by the Aviation department of the Automobile Association, and knowing how efficient that department was, Mr. White asked them what he could do. They couldn't believe that anyone had really taken the maps, but said that they would let him have another set within an hour. People who heard this thought it too good a chance to miss, for though they all agreed that few organisations of this nature approach the efficiency of the A.A., yet the production of complete strip maps to Penang at an hour's notice was too much to be swallowed. So they laughingly suggested that Mr. White would be glad to have his original set returned so quickly, saying that even actresses are said to have had their jewels stolen for publicity. In point of fact, Mr. McClure, who is in charge of the department, tells us that he had another complete set ready for the route to Australia, and these did not require much cutting to be ready. So he was able to supply them, and Mr. White left to schedule.

Autogiro Progress

THE single-seater "Autogiro," which has been built by G. & J. Weir, Ltd., at Glasgow, has been flown a lot at Heston recently by Señor de la Cierva himself. This little machine is at present purely experimental. It has a plywood monocoque fuselage, and the two-bladed rotor is carried on a cantilever single-tube pylon. The control is direct, as in the C.30 model, of which one is now nearing completion in the workshops of Airwork, Ltd., at Heston Airport. The rotor obtains its initial revolutions by a friction drive from the twin-cylinder Douglas "Dryad" engine, in the nose.

Señor Cierva is understood to be developing a method of varying the incidence of his rotor blades, which, if successful, should result in an "Autogiro" which will rise vertically.

Aeroplane for M. Daladier

A THREE-ENGINED machine, capable of a speed of 125 m.p.h., has been presented to M. Daladier, the French Prime Minister, by M. Pierre Cot, the Minister for Air. M. Pierre Cot also inaugurated the Compagnie Air-France at Le Bourget on Saturday, October 7.

Secretary of State at Staff College

THE R.A.F. Staff College, Andover, was inspected by Lord Londonderry, Secretary of State, on Tuesday, October 3. Lord Londonderry flew to Andover from Hendon and was received by Air Vice-Marshal P. B. Joubert de la Ferté.



PRINCE NICHOLAS IN ITALY : During his recent stay in Italy, Prince Nicholas of Roumania visited several aircraft factories. He is shown here in the front cockpit of a Breda 39 after flying this machine, accompanied by Ing. A. Colombo (rear cockpit). Standing on the left is Count Sagrarnoso, Managing Director of the Breda Company.

Airport News.

CROYDON

ON Thursday of last week there was some stir because the flags of all nations which use the Airport of London were flying from the terminal building. The display of bunting coincided with the arrival from Paris by Imperial Airways, Ltd., of a number of members of the Ziegfeld Follies troupe. The flags, however, were flown in honour of members of the International Legal Conference who visited the airport and made a short flight with Imperial Airways, Ltd., on that day.

An interesting straw showing clearly which way the wind is blowing air transport into public favour is the increasing tendency for London firms connected with male and female fashions to bring their models to the airport and pose them in front of a "Heracles" instead of at the grimy door of a first-class railway carriage or at the gangway of a steamship. Amongst those firms which are thus up to date are Swan & Edgars, Ltd., Selfridges, and Austin Reed, Ltd. The well-known journal *Vogue* also uses the modern air liner as a background for such photographs. A notable arrival last week was Mr. Mosset, an officer of the South African Air Force, who had made a leisurely trip from Nairobi in a Blackburn Seagrave "Meteor," much as you or I might tour along the Great North Road in a car. Ex-King Alfonso arrived from Paris by Imperial Airways early in the week.

Another incident was the arrival of the wife of a Viscount not unknown in journalistic circles. Her first remark to the chauffeur who met her was, "How is he?" to which the man replied, "His Lordship, your ladyship?" "No," was her answer—"the dog." The anecdote is not only true, but contains a world of philosophy.

A very large quantity of gold—actually U.S.A. gold dollars—passed into this country by boat last week and out again by Royal Dutch Air Lines. At a rough estimate it must have weighed some 4,000 kg., and the value would not have been far short of £55,000.

There has been a certain amount of autumn fog at Croydon during the past week, but very little interruption of services was experienced.

Pilots are able to take off in dense fog along the white chalk line, which is some 300 yards long and gives a clear space free from obstruction for a further 700-800 yards after passing the end of it. It is also found extremely useful to land along, as it gives a pilot fairly certain knowledge where he is landing. Before it was laid down (at the suggestion of Mr. Youell, a senior Imperial Airways pilot) cases occurred where pilots saw the aerodrome surface, but dared not land in case of obstructions veiled in the mist. Comparatively recently a red illuminated line formed of neon tubes under thick glass sunk flush with the surface has been brought into use. Pilots are asking why this red line is not parallel with the white one, as the latter indicates the only permissible landing and take-off direction in conditions of calm. The neon line is at an angle of 45 deg. to the white one, and it is said that the authorities legislated for the prevailing wind—in fog!

The futility of attempting to come into an airport in really thick fog was illustrated last week, when one pilot, knowing the prevailing conditions, spent ten minutes circling overhead and then made for a fog-free aerodrome in the vicinity. Whilst this was going on a machine of another company made straight for an emergency aerodrome and landed there. I would wager that the passengers from the second aeroplane were in London before those of the machine which wasted time in a vain endeavour to land at Croydon.

One of the minor difficulties besetting air transport people is the fluctuation in the weight of passengers. One day recently a traffic manager at Croydon found that twelve passengers averaged 13½ stones.

Mr. "Joe" Chamberlain, a well-known figure at the airport, who has been employed by Surrey Flying Services for many years, suddenly revealed himself as a "bowls" wizard by winning the championship competition of the Waddon Bowling Club, and thus gaining the cup and a medal.

Airport figures continue to be distinctly encouraging. Passengers totalled 70,300 in and out of the airport from January to September, 1933, as against 70,200 for the whole year, 1932.

September figures showed 10,300 passengers, compared with 8,100 for September last year.

A. VIATOR.

FROM HESTON



32½ per cent. increase on the School flying hours recorded during the previous year is shown in the figures for the financial year ending September 30, 1933. September figures constitute a record for that month, and they show an advance of 123 per cent. on those of 1932.

Twenty new pupils joined the School during September, two of them being of Swedish nationality. Some interesting figures have been arrived at in connection with the training of pupils on Avro "Club Cadets" (7-cyl. "Genets"), with which the School was re-equipped some three months ago. It was confidently expected at that time that average pupils trained on these machines would reach the solo stage in slightly less than the 8 hours normally budgeted for, and an estimate of 7 hours' dual on the "Cadet" which was published at the time these machines were acquired is now directly confirmed by the School register. Working backwards from the delivery date of the "Cadets," Airwork averaged up the performance of twelve pupils trained throughout by them. Names were taken in strict succession in the order of entry, and the average arrived at was 8 hr. 58 min. Working onwards upon twelve pupils trained entirely on the "Cadets," the average dual required was 7 hr. 3 min.

Sir Charles Kingsford Smith left Heston at 4.20 p.m. on Tuesday, October 3, on the first stage of his flight to Australia. Final attentions to his Percival "Gull" ("Gipsy Major"), named *Miss Southern Cross*, which included compass swinging, damping out vibration of the auxiliary tank, and a complete inspection of the airframe, were carried out by Heston engineers during the week-end.

Birkett Air Service, Ltd., on Thursday received a telegram from the German Air Minister, Herr Göring, expressing his thanks for the lengthy search which was made by that company for the lost mail carrier from the *Bremen*.

The British Air Navigation Co. brought photographs from Southampton of Col. and Mrs. Lindbergh.

GRAVESEND AIRPORT

THE Gravesend Airport is one of the largest landing areas in England, being 153 acres in extent, with a 1,300-yd. run diagonally. Situated 250 ft. above sea level, it has excellent natural drainage, for besides the fact that there is chalk 1 ft. below the surface, there is a gentle fall-away on three sides. Another striking feature is its freedom from fog, even when the surrounding country is covered.

Gravesend Aviation, Ltd. (which controls the Gravesend School of Flying), is planning big things under the managing directorship of Mr. Herbert Gooding, a local master-builder, who is very enthusiastic about the possibilities of aviation, and hopes before long to start an airline of his own. When he joined the company something over a year ago, the aerodrome was in need of repair and development. Since then, he has erected one of the most attractive club-houses we have seen. This is the headquarters of the Gravesend Aerodrome Club, and contains living quarters for pupils who wish to reside at the airport.

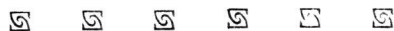
The present accommodation for aircraft, which is of 9,000 sq. ft. area, will soon be dwarfed by the new hangar being erected on the aerodrome by A. & A. J. Law, Ltd., of Merton, who built the large hangar at Reading. The erection is being so arranged that the hangar will be in three sections of 16,000 sq. ft. area each. Work on the

building was started three weeks ago, and the present section is expected to be completed in three more weeks. Workshops and storerooms are arranged along each side.

The company now operates two "Moths" ("Gipsy I") and a "Fox Moth" ("Gipsy Major"). Of the former pair, one is fitted up for blind and night flying, while the "Fox Moth" is being used very successfully for taxi work. The Chief Instructor is Flt. Lt. P. H. Smith—a C.F.S. "A1" pilot—and F/O. A. L. Piper, who flew to Australia in a Desoutter in 1930, is also on the instructional staff.

The airport has been "in the news" of late owing to

negotiations between K.L.M. and the airport authorities. The machines of this company operating on the Amsterdam-London route pass directly over Gravesend, and it may now be stated that K.L.M. regard Gravesend as a possible alternative to Croydon, and not merely as an emergency landing ground. Application has been made for permanent Customs facilities for the airport. Meanwhile, these are obtained from the town of Gravesend. Three K.L.M. Fokkers have landed at Gravesend during ten days. By using Gravesend instead of Croydon, K.L.M. would save a very considerable mileage yearly. Deutsche Luft Hansa have also shown interest in the airport.



CUBITT AND ANOTHER v. GOWER

Oct. 3-4, 1933. King's Bench Division. Before Mr. Justice Acton

The importance of an adequate view both in front of the aeroplane and behind, and the need for a thorough investigation of the existing aerodrome regulations, are both emphasised in this report, which we have received from a special correspondent, of what is believed to be the first action in any Court arising out of a collision between aeroplanes on the ground

ALTHOUGH in certain countries, notably in the United States of America, legal actions in connection with aviation matters are becoming increasingly common, there have as yet been remarkably few cases in our Courts. Particular interest, therefore, attaches to the case of Cubitt v. Gower, which was heard in the High Court on October 3 and 4. This case arose out of a collision between two aircraft on the ground, and is believed to be the first case of its kind in any Court, although there has been one case in America arising out of a collision in the air.

The plaintiff, F/O. Cubitt, was the pilot and joint owner of a "Moth," and the defendant, Miss Pauline Gower, was the owner of a "Spartan" 3-seater. It was alleged by the plaintiff that in the course of an Air Display at the Cardiff Municipal Air Port last year his machine, which was stationary on the ground with the engine ticking over, was run into by Miss Gower's machine which was in course of taking off. In these circumstances a claim was brought under Section 9 (1) of the Air Navigation Act of 1920, which provides in effect that where material damage is caused by an aircraft when taking off, in flight, or landing, the owner shall be liable unless the damage was caused or contributed to by the negligence of the person sustaining the damage.

The defendant alleged contributory negligence, and counter-claimed for the damage to her machine on the grounds (*inter alia*) that the plaintiff (a) failed to keep a proper look out, (b) crossed the path of her machine when he knew or ought to have known that it was about to take off along that course, (c) taxied his machine down wind in a zone reserved for departures and landings.

As in all running-down cases there was a conflict of evidence as to what actually took place, but in the main the facts do not appear to have been in serious dispute except as to the length of time which had elapsed between the moving of the plaintiff's machine from a point by the enclosure railings to a position some little distance further out on to the aerodrome and the actual moment of the collision. Plaintiff's witnesses alleged that the "Moth" had been stationary in its new position for anything from one to four minutes, whereas defendant's witnesses alleged that it was still by the enclosure some 15 to 20 seconds before the "Spartan" commenced to take off.

Mr. Justice Acton, in delivering judgment, said that there was no essential difference between a collision of this type between two aircraft on the ground and a motor collision, except that by reason of Section 9 of the Air Navigation Act the usual procedure was reversed, and instead of the plaintiff being required to prove negligence against the defendant the latter, being the owner of the

machine which was taking off, had to prove negligence against the plaintiff in order to escape liability. His Lordship found that the evidence as to negligence was in favour of the plaintiff, and that even apart from the provisions of the Air Navigation Act in this respect he would have been entitled to succeed. He accordingly gave judgment for the plaintiff on the claim and counter-claim.

From a purely legal point of view it was perhaps unfortunate that the issue fell to be decided so simply. Had there been a greater conflict of evidence it might have been necessary to go more fully into such questions as the zoning of aerodromes and the respective rights and duties of pilots under existing aerodrome regulations when taxiing and taking off respectively. It is a notorious fact that many of the existing aerodrome regulations, including the regulations as to flying in the vicinity of aerodromes, are honoured very much more in the breach than in the observance. Either these regulations are good, in which case they should be enforced, or they are bad, in which case they should be revised. It may be argued that as the bad ones are ignored without anyone being the worse for it the correct policy is to leave well alone, but it must be borne in mind that as long as they remain technically in force they are liable to affect questions of liability, not only in cases of collision, but also as between air carriers and their passengers in case of accident. The danger of this from an air carrier's point of view was fully illustrated by a recent American case where the pilot was charged with negligence because, when one of his three engines started to give trouble just after taking off, he turned off his course to make for a piece of open ground, contrary to the regulation which states that a pilot must continue on a straight course for a certain specified distance after crossing the edge of the aerodrome!

It is interesting to note that in the case of Cubitt v. Gower all the parties were in agreement that the pilot in charge of the aircraft is absolutely responsible to see that the coast is clear before commencing to take off, and that no "all clear" signal from a ground engineer absolves him from this responsibility. This is sound common sense and has always been considered to be the rule among flying people. One is bound to admit that it throws a duty frequently difficult to discharge on to pilots of certain types of aircraft, most tractor types giving an extremely poor forward view, while many cabin types give an equally bad backward view. The remedy, however, lies in the hands of aircraft users themselves, and it may be that this case will help to bring home to aircraft users their responsibilities in this respect and the vital necessity of demanding from designers and constructors that the pilot shall have the best possible view in all directions.



Oranmore Aerodrome

NEGOTIATIONS are taking place for the acquisition of a field to the north of Oranmore aerodrome, near Galway, in order that the landing area may be enlarged to provide facilities for all types of aircraft. Oranmore aerodrome has been used by Western Airways, Ltd., as a base for their Dublin-Galway service.

British Air Attache in China

WING COM. ROBERT PEEL WILLOCK, at present attached to the Staff of Headquarters Fighting Area, has been appointed British Air Attaché in China. The Chinese Government has undertaken considerable schemes of air development, and this is probably the reason for the new appointment.

Correspondence.

The Editor does not hold himself responsible for opinions expressed by correspondents. The names and addresses of the writers, not necessarily for publication, must in all cases accompany letters intended for insertion in these columns.

POBJOY MODIFICATIONS

[2877] I have recently obtained from the manufacturers a list of 12 upkeep notices and modifications to Pobjoy engines. I understand from the service agents that these form part of a list of some 45 modifications which are available on Pobjoy engines of various dates.

Now, since these notifications as to modifications have not yet found their way to the majority of private owners, and since a knowledge of the alterations recommended is essential to the life and the reliability of the engines, it seems well that one should advise them through your columns that a full list is obtainable from the manufacturers on demand. Private owners will then become aware of the steps which can be taken to overcome their present difficulties, and will be able to gauge the amount of work involved in their next overhaul for C. of A.

The list includes the following of special interest:—

1. Prevention of engine failure in snow storms.
2. Prevention of slipping on re-modified magneto couplings.
3. Prevention of cracking on internal parts of the above.
4. Prevention of cylinder warping, etc., by uneven air cooling.
5. Prevention of erratic mixture control through side loads on altitude cock.

I understand that in addition to the above 45 notices, two or three more are now "on the stocks." These aim at the reduction of oil leakage in the region of the propeller boss, a tendency which reveals itself after a number of flying hours.

POBJOY OWNER.

London, E.C.2.

October 3, 1933.

[Below is Mr. Pobjoy's answer to our correspondent, which states clearly the manufacturer's point of view.]

We would explain that the twelve or so Owners' Upkeep Notices do not refer to modifications, but contain hints on maintenance aimed at assisting the operator to obtain the best results and to carry out simple overhaul operations. These notices are circulated from time to time to our repairers, service agents and aircraft makers, and also to as many of our private owners as are known to us. We are generally able to keep in touch with owners of new engines through our guarantee, but it is not always possible to trace the fortunes of second- and third-hand machines.

Every six months these notices are reprinted in convenient form and are included in the handbook issued with each new engine. A supply is also issued to service and repair agents for distribution to owners as required.

The forty-five modifications referred to by your correspondent are in quite a different category, and represent alterations, many of them unimportant, which have been made to our R-type engine since it was introduced three years ago. In order to comply with Air Ministry requirements it is necessary to keep an accurate list of such alterations, and for their own information we supply copies to our agents.

It is, however, quite unnecessary for the private owner to be bothered with the information, and the service agent was quite wrong in otherwise advising him.

The list in question is divided into three classes of modifications: Obsolete, Non-essential, and Essential. The first class are not applicable, the second class are of minor importance and may be introduced if the owner wishes at the next overhaul on the advice of his repair agent, who is already in possession of the list and familiar with it.

In accordance with the regulations, Essential Modifications must be dealt with either by the issue of an Air Ministry "yellow notice" or by the engine makers' own action. All Pobjoy engines in existence have received all the essential modifications but one from us, the engines having been recalled to our works for the purpose. The one exception is the fitting of the warm air intake for snow flying, which is covered by Air Ministry Notice to Owners and Engineers, No. 35, of the year 1933. Incidentally, this is the only "yellow notice" yet issued about our engines.

In regard to the specific points mentioned in your

correspondent's letter: No. 1 is covered by the above-mentioned notice, which should have reached him through the official channels.

Nos. 2 and 3 specifically state that they need not be applied to engines in actual service, and in any case are now obsolete.

Nos. 4 and 5 are purely installation matters for the attention of the airframe maker, and refer to the layout of controls and to the desirability of fitting the Pobjoy or other approved type of inter-cylinder air deflectors.

We trust that these remarks will allay your correspondent's doubts, and we should like to take this opportunity of asking him never to hesitate to write direct to us when in any difficulty. Our service department, whose main object is to assist the owner, is often handicapped by the tendency of operators to nurse difficulties to themselves—probably magnifying unimportant points while neglecting serious features—whereas a 1½d. stamp would bring helpful advice and, if necessary, practical assistance. Incidentally, our handbook is provided with all new engines and contains full maintenance information.

Finally, we would extend a cordial invitation to your correspondent to visit us at our works at Hooton in order that we may make his acquaintance.

POBJOY AIRMOTORS, LTD.

(D. R. POBJOY, General Manager.)

A HIGH-SPEED RECORD FUND

[2878] I am very much interested in the recent suggestion put forth by your readers in Australia, that finance could be raised to enable Britain to regain the world's air speed record. I do not doubt that the public would be willing to subscribe, but according to a newspaper I read some while ago, Lord Londonderry stated that even if a donor presented the necessary sum the R.A.F. would not be permitted to make an attempt, owing to the dangers on life it would impose. If this is correct, then the whole idea is useless, unless a suitable civilian pilot took on the job, and even then a new machine must be purchased or the old "Supermarine" re-designed, that is, of course, if the Government would loan it. I think the scheme from Australia is excellent, and it would be interesting to know what other readers' views are on this subject.

ERNEST W. BAKER.

Cranwell, Lincs.

September 23, 1933.

FASTER AIR MAILS

[2879] The recent deputation from the London Chamber of Commerce to the Secretary of State for Air showed that there is a demand for a faster air mail service. For some years the London Chamber of Commerce has been trying to induce the postal and other authorities concerned to increase the air mail facilities offered to the public, but with little apparent success.

Whilst some other countries put on a fast air mail service, knowing that its very existence will soon produce the necessary demand for its services, this country has not sufficient initiative to start one even when the demand comes first.

This petition for faster air mails comes only a few days after the conditions for the extension of our air line to Australia are announced, in which a cruising speed of 95 m.p.h. for the next two years is asked for. Commercial aircraft are getting faster every year, and yet the Australian Government will be satisfied five years hence with 110 m.p.h., which is below the cruising speed of the fastest Imperial Airways passenger carriers of to-day.

The Royal Dutch Airline ran their service from Holland to the Dutch East Indies at a cruising speed of 122 m.p.h. during 1932, and faster aeroplanes have already been ordered. This is not the only foreign air line with faster aircraft than ours, but I have quoted it because it shares with Imperial Airways the distinction of running on a subsidy which forms only about 50 per cent. of the receipts, whereas some Continental air lines have been receiving over 80 per cent. in subsidies.

E. N. B. BENTLEY.

West Drayton, Mddx.

October 5, 1933.

THE ROYAL AIR FORCE

London Gazette, October 3, 1933

General Duties Branch

The follg. are granted permanent commns. as Pilot Officers with effect from Sept. 16 and with seny. of Sept. 16, 1932, on relinquishing their commns. as Pilot Officers, R.A.F.O.:—R. T. Gething, J. K. Rotherham, K. C. Willett.

D. G. Lewis is granted a permanent commn. as Pilot Officer with effect from Sept. 16 and with seny. of Sept. 16, 1932, on relinquishing his commn. as Pilot Officer, R.A.F. Special Reserve; Flight Cadet M. F. B. Read, having successfully passed through the R.A.F. College, Cranwell, is granted a permanent commn. as Pilot Officer with effect from Sept. 27 and with seny. of July 15; Capt. F. H. A. Harrison, R.A.R.O., is granted a short service commn. as Flight Lt. on the Supplementary List (Sept. 25). The follg. officers are granted temp. commns. as Flying Officers on being seconded for duty with R.A.F. (Sept. 18):—Lt. C. G. Hill (The Buffs), Lt. A. C. Weldon (Sherwood Foresters).

The follg. are granted short service commns. as Acting Pilot Officers on probation with effect from and with seny. of Sept. 22: A. M. A. Birch, R. A. Charles-Auckland, T. I. Davies, A. A. de Gruyther, J. Gyll Murray, E. A. House, W. A. Ingoe, D. M. Newman, R. V. L. Pattison, B. Robinson, C. F. Sarsby, J. Shepherd-Smith, D. G. H. Spencer, J. C. Taylor, R. L. Vivian, C. E. L. Wray.

D. C. Oliver is granted a short service commn. as Acting Pilot Officer on probation with effect from and with seny. of Sept. 22, on relinquishing his commn. as Pilot Officer, R.A.F.O.; P/O. G. R. Murphy is promoted to rank of Flying Officer (Sept. 28).

The follg. are promoted with effect from Oct. 1:—Flight Lts. to be Squadron Ldrs.—G. H. Harrison, D.F.C.; J. Oliver, A.F.C.; C. B. Riddle; F. C. B. Savile; A. M. Wray, M.C., D.F.C., A.F.C.

P/O. G. C. Tomlinson takes rank and precedence as if his appointment as Pilot Officer bore date Aug. 14, immediately following P/O. J. W. Young on gradation list. Reduction takes effect from Aug. 14; P/O. A. J. Kennedy takes rank and precedence as if his appointment as Pilot Officer bore date Aug. 14, immediately following P/O. G. C. Tomlinson on gradation list. Reduction takes effect from Aug. 14; P/O. A. H. Fear takes rank and precedence as if his appointment as Pilot Officer bore date March 1. Reduction takes effect from Aug. 14; Sqdn. Ldr. J. H. Green is placed on half-pay list, Scale A, from July 26 to Aug. 20, inclusive. (Substituted for Gazette, Aug. 1); Comdr. E. W. Anstice, R.N., Sqdn. Ldr., R.A.F., ceases to be attached to R.A.F. on return to Naval duty (Sept. 26); Lt. D. A. H. Hornell, R.N., Flying Officer, R.A.F., relinquishes his temp. commn. on return to Naval duty (Sept. 28); Capt. R. M. Giddy, R.M., Flying Officer, R.A.F., relinquishes his temp. commn. on return to duty with Royal Marines (Oct. 4); F/O. E. O. Wanliss (Lt., E. Lancs. R.), relinquishes his temp. commn. on return to Army duty (Oct. 1).

Stores Branch

Flt. Lt. F. J. W. Humphreys is promoted to rank of Squadron Ldr. (Oct. 1).

ROYAL AIR FORCE INTELLIGENCE

Appointments.—The following appointments in the Royal Air Force are notified:—

General Duties Branch

Air Commodore P. H. L. Playfair, C.B., M.C., to H.Q., Wessex Bombing Area, Andover, 26.9.33, on appointment as Air Officer Commanding, vice Air Vice-Marshal Sir T. I. Webb-Bowen, K.C.B., C.M.G.

Wing Commanders: A. S. Maskell to H.Q., Fighting Area, Uxbridge, 25.9.33, for Air Staff duties. A. H. Orlebar, A.F.C., to H.Q., Aden Command, 22.9.33, for duty as Senior Air Staff Officer, vice Sqdn.-Ldr. A. P. M. Sanders.

Squadron Leaders: G. C. Rhodes, to No. 5 Flying Training School, Sealand, 22.9.33, for Engineer duties, vice Sqdn.-Ldr. S. Graham, M.C. E. H. Richardson, to School of Army Co-operation, Old Sarum, 22.9.33, for Signals duties, vice Sqdn.-Ldr. C. S. Richardson, M.B.E.

Flight Lieutenants: G. C. Bladon, to R.A.F. Base, Singapore, 22.9.33. C. B. Greet, to R.A.F. Base, Singapore, 22.9.33. F. R. D. Swain, to No. 208 (A.C.) Sqdn., Heliopolis, 12.9.33. E. D. H. Davies, to No. 100 (B.) Sqdn., Donibristle, 16.9.33. L. G. Nixon, to No. 500 (Co. of Kent) (B.) Sqdn., Manston, 15.9.33. C. A. Bouchier, D.F.C., to Special Duty List, 1.4.33, for duty with the Indian Air Force. A. D. Davies, to Station H.Q., Abingdon, 26.9.33. F. H. A. Harrison, to R.A.F. Depot, Uxbridge, 25.9.33, on appointment to a Short Service Commn. (Supplementary List). E. J. Kingston-McClaghry, D.S.O., D.F.C., to No. 4 (A.C.) Sqdn., S. Farnborough, 15.9.33. R. R. Nash, to Experimental Section, Royal Aircraft Estab., S. Farnborough, 18.9.33. J. H. Powle, to Air Ministry, Dept. of A.M.S.R. (D.T.D.), 21.9.33. A. G. C. Somerhough, to Station H.Q., Boscombe Down, 25.9.33. C. H. A. Stevens, to No. 111 (F.) Sqdn., Hornchurch, 22.9.33. H. E. King, to Station H.Q., Mount Batten, 28.9.33. M. W. C. Ridgway, to No. 201 (F.B.) Sqdn., Calshot, 16.9.33. S. N. Webster, A.F.C., to Special Duty List, 1.10.33. H. P. F. Fagan, to No. 4 Flying Training School, Abu Sueir, 26.9.33.

Flying Officers: R. M. Messiter, to No. 3 Armament Training Camp, Sutton Bridge, 14.9.33. O. P. E. Williams, to Anti-Aircraft Co-operation Flight, Biggin Hill, 18.9.33. A. M. Doran, to No. 820 (F.S.R.) Sqdn., 21.9.33. D. W. Bayne, to No. 20 (A.C.) Sqdn., Peshawar, India, 1.9.33. F. R. Berry, to No. 204 (F.B.) Sqdn., Mount Batten, 16.9.33. G. D. Fleming, to No. 207 (B.) Sqdn., Bircham Newton, 18.9.33. H. J. L. Hawkins, to No. 210 (F.B.) Sqdn., Pembroke Dock, 16.9.33. A. C. Mitchell, to No. 201 (F.B.) Sqdn., Calshot, 16.9.33. G. F. Overbury, to R.A.F. Training Base, Leuchars, 25.9.33. A. G. F. Stewart, to No. 201 (F.B.) Sqdn., Calshot, 16.9.33. G. E. Strangman, to No. 210 (F.B.) Sqdn., Pembroke Dock, 16.9.33. T. H. Wilson, to No. 58 (B.) Sqdn., Worthy Down, 18.9.33. C. G. Hill, to R.A.F. Training Base, Leuchars, 18.9.33, on appointment to a temporary commn. G. B. Keily, to No. 4 Flying Training School, Abu Sueir, 26.9.33. W. M. L. MacDonald, to No. 4 Flying Training School, Abu Sueir, 26.9.33. V. C. F. Streetfield, to No. 4 Flying Training School, Abu Sueir, 26.9.33.

Pilot Officers: H. S. Miles, to No. 30 (B.) Sqdn., Mosul, Iraq, 8.9.33. M. F. B. Read, to No. 99 (B.) Sqdn., Upper Heyford, 27.9.33, on appointment to a Permanent Commn.

Acting Pilot Officers: The following Acting Pilot Officers are posted to No. 5 Flying Training School, Sealand, on 16.9.33, for flying training:—H. V. Alloway, S. S. Bertram, A. P. W. Cane, K. Capel-Cure, E. L. Colbeck-Welch, L. P. Gibson, H. A. R. Holford, G. E. Jackson, V. H. A. McBratney, A. M. Mulliken, C. P. L. Nicholson, J. J. J. Page, C. R. Paylor, B. V. Robinson, E. U. G. Solbe, G. J. D. Thomson, R. H. Waterhouse and S. G. White. The undermentioned Acting Pilot Officers are posted to the R.A.F. Depot, Uxbridge, on 22.9.33, on appointment to Short Service Commns.:—A. M. A.

Medical Branch

Flt. Lt. O. S. M. Williams, M.R.C.S., L.R.C.P., is granted a permanent commn. in this rank (Oct. 4); F/O. J. F. Dales, M.R.C.S., L.R.C.P., is granted a permanent commn. in this rank (Oct. 4). The following are granted short service commns. as Flying Officers for three years on active list, with effect from Sept. 4 and with seny. of the dates stated:—L. S. Everett, M.R.C.S., L.R.C.P. (Sept. 4, 1932); G. Gilchrist, M.B., B.S. (March 4); W. P. Griffin, M.B., B.Ch. (Sept. 4).

Miscellaneous

J. Ingram is granted a temp. hon. commn. as Flight Lt. (Sept. 26).

PRINCESS MARY'S ROYAL AIR FORCE NURSING SERVICE

Staff Nurse Miss E. M. Marfleet is promoted to rank of Sister (Sept. 8).

ROYAL AIR FORCE RESERVE RESERVE OF AIR FORCE OFFICERS

General Duties Branch

The following Flying Officers are transferred from Class A to Class C. (Sept. 30):—S. J. Clinch, D.C.M., G. L. Shephard.

F/O. A. J. C. Overal is transferred from Class C to Class A (Sept. 13); P/O. J. A. Rogers resigns his commn. (Sept. 21); Flt. Lt. A. J. P. Hytch relinquishes his commn. on completion of service, and is permitted to retain his rank (July 31); F/O. R. J. Weaver relinquishes his commn. on completion of service, and is permitted to retain his rank (Aug. 7).

The following Pilot Officers relinquish their commns. on appointment to permanent commns. in the R.A.F. (Sept. 16):—R. T. Gething, J. K. Rotherham, K. C. Willett.

P/O. D. C. Oliver relinquishes his commn. on appointment to a short service commn. in R.A.F. (Sept. 22). *Gazette*, April 11, concerning Flt. Lt. G. Rose is cancelled.

SPECIAL RESERVE

General Duties Branch

P/O. G. R. H. Black is promoted to rank of Flying Officer (Sept. 16); P/O. D. G. Lewis relinquishes his commn. on appointment to a permanent commn. in R.A.F. (Sept. 16).

AUXILIARY AIR FORCE

General Duties Branch

No. 600 (CITY OF LONDON) (BOMBER) SQUADRON.—Flt. Lt. G. C. Bonner relinquishes his commn. on completion of service (Sept. 1).

AUXILIARY AIR FORCE RESERVE OF OFFICERS

General Duties Branch

G. C. Bonner is granted a commn. in Class A as Flt. Lt. (Sept. 1).

Stores Branch

Flying Officer L. Llewellyn, to R.A.F. Base, Singapore, 22.9.33.

Accountant Branch

Flying Officers: V. H. Lewis to R.A.F. Base, Singapore, 22.9.33. R. Cassels to No. 210 (F.B.) Sqdn., Pembroke Dock, 15.9.33.

NAVAL APPOINTMENTS

The following appointments have been made by the Admiralty:—

Lt.-Com. (Sqd. Ldr., R.A.F.): F. W. H. Clarke, to *Furious* (Oct. 2). *Surgn. Lt.*—C. J. Waring, to *President*, for R.A.F. Medical Officers' course (Oct. 2).

HONOURS

AMONGST the Honours conferred by H.M. the King for valuable services rendered in connection with operations in Northern Kurdistan, Iraq, during the period December, 1931, to June, 1932, and announced in the *London Gazette* on October 6, 1933, are the following:—

C.B. (Military Division)

Air Commodore C. D. Breese, A.F.C., R.A.F.

Military Cross

Flt.-Lt. C. B. R. Pelly, R.A.F., Air Liaison Officer.

Bar to Distinguished Service Order

Sqdn. Ldr. M. B. Frew, D.S.O., M.C., A.F.C., R.A.F.

Distinguished Flying Cross

Flt. Lt. G. D. Harvey, R.A.F.

Distinguished Flying Medal

363013 Sgt. R. C. Stafford, R.A.F.

364651 L.A.C. M. G. Friese-Greene, R.A.F.

The names of the undermentioned have been brought to notice by Air Vice-Marshal E. R. Ludlow-Hewitt, C.B., C.M.G., D.S.O., M.C., Air Officer Commanding, Iraq Command, for distinguished services rendered in connection with the operations:—

Royal Air Force.—Sqd. Ldr. G. S. N. Johnston, Sqd. Ldr. V. D. O'Malley, M.C. (since deceased), Flt. Lt. C. J. W. Hatcher, A.F.C., F/O. B. E. Lowe, F/O. G. D. Emms, F/O. E. F. J. L'Estrange, F/O. J. T. Mynors, F/O. H. W. Marlow, F/O. B. A. Casey, Warrant Officer (2nd Class) A. Beese, 319097 Sgt. W. W. Ballantyne, 363261 Sgt. W. E. Sully, 363884 L.A.C. R. P. A. Bishop, 506844 L.A.C. A. Leitch.

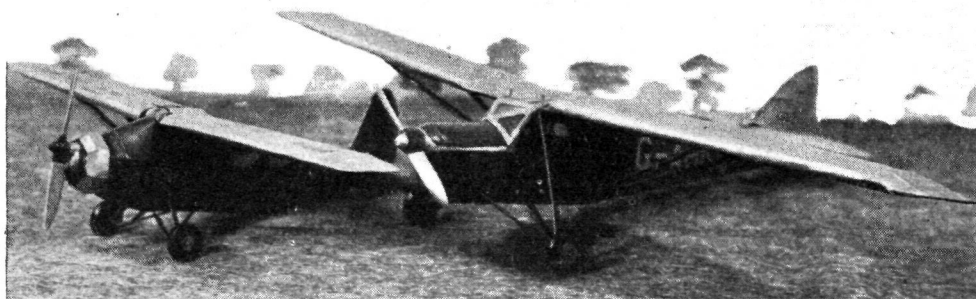
Iraq Army.—Col. Hon. (Brigadier-General) H. R. Headlam, C.B., C.M.G., D.S.O., ret. pay (Reserve of Officers).

Models.

SCALE MODELS

(Continuing from the photograph on page 1031)

... models (yes, the "crash" was only one staged by our photographic staff, with two models) of this type are so realistic that carefully-made photographs of this kind will deceive most people. Five minutes after the first photograph was taken, the second was staged, which only goes to show that things are not always what they seem. Models like these are scale models and made of paper in such a manner that they are very strong. They have a variety of uses. Not only may they be given to one's nephew, small sons and similar thoroughly air-minded youngsters, but they have also a very definite advertising value. Models, if of absolutely accurate scale and accompanied by a data sheet of performance, can give a more telling idea of what an aircraft is like than can a plain catalogue, while for those accessory makers who like to make their clients some small present at Christmas or on other suitable occasions, a model aeroplane, provided it is a real model and not merely a travesty of the real thing, is a most suitable gift. Aeromodels, Ltd., of Hooton Road, Willaston, Wirral, Cheshire, is a firm which is now putting out paper models of just the right kind. They are all true to scale, at one-twenty-fourth size, and we have recently been able to examine both a "Puss Moth" and a Comper "Swift" made by them. These models are sold either in boxes containing all the materials necessary for making them up, even down to the glue, or as the finished article. The latter are certainly very realistic indeed. As regards the former, we are making one up ourselves, and so will have more to say about it at a later date. The company's directors are Messrs. E. A. Davis, H. Dodson, and G. M. Edye, the latter already well known to our readers for his connection with both the Comper Aircraft Co., Ltd., and Pobjoy Airmotors, Ltd.



TRUE TO LIFE: Scale models (pieced together after the crash) of a Comper "Swift" and a D.H. "Puss Moth." (FLIGHT Photo.)

BRIEFLY

MR. ARTHUR HILLIER has been appointed General Manager of the Sperry Gyroscope Co., Ltd., of Great West Road, Brentford. He has been a Director since 1922, is a Freeman of the City of London, and a Liveryman of the Worshipful Company of Needle-makers. Mr. Francis J. Delves has been appointed a Director of the same company.

MR. H. HEMMING and MR. J. HORSFALL inform us that their address is now:—H. Hemming & Partners, Ltd., 22, Queen Anne's Gate, London, S.W.1. Telephone: Victoria 7340 and 7341.

ENGINEERS visiting the International Motor Exhibition, Olympia, will be particularly attracted by the smallest steel balls in the world. These will be exhibited by the Hoffmann Manufacturing Co., Ltd., of Chelmsford, on their stand No. 498, and are only $\frac{1}{16}$ in. diameter, and will carry the usual Hoffmann guarantee as regards accuracy.

THE whole of the service arrangements for Sir Charles Kingsford Smith are in the hands of the Vacuum Oil Co., Ltd.; this same company also attended to the wants of Col. Lindbergh's engine during the recent flight from America.

SIR ALAN COBHAM will shortly be starting on an extended tour to try out the reliability of his Airspeed "Courier" ("Lynx"), which he and Sqd. Ldr. Helmore will be using for a non-stop refuelling flight to Australia.

THE M.G. Car Club will be holding their annual Show-Time dinner-dance at the Park Lane Hotel on Thursday, October 19. Tickets at 17s. 6d. each can be obtained from the Secretary, Friars Cottage, Clive Road, Esher; these will include the dinner, dance and a cabaret.

PUBLICATIONS RECEIVED

The Reduction of Distribution Costs. By J. Gibson Jarvie. United Dominions Trust, Ltd., Regis House, King William Street, London, E.C.4.

Aeronautical Research Committee Reports and Memoranda: No. 1541. Second Report on Tail Buffeting. By W. J. Duncan, D. L. Ellis and E. Smyth. May, 1933. Price 1s. 3d. net. No. 1545. *Principles of the Air Injector.* By A. Bailey and S. A. Wood. Feb., 1933. Price 1s. 9d. net.

No. 1546. *Tests of Full Scale Anchors in Various Sea Beds.* By Sqd. Ldr. D. F. Lucking. Nov., 1932. Price 9d. net. London: H.M. Stationery Office, Kingsway, W.C.2.

The Journal of The Royal Aeronautical Society. October, 1933. No. 274. Vol. XXXVII. Price 3s. 6d.

Ourselves: An Essay on the National Character. By H. W. Nevins. Oct., 1933. Broadcast Talks Pamphlets. London: The British Broadcasting Corporation. Price 6d.

German. A First-Year Course 1933-34. By Max Kroemer. London: British Broadcasting Corporation. Price 3d.

Spanish. A Second Year Course, 1933-4. By M. de Laguna. London: British Broadcasting Corporation. Price 3d.

The British Empire: An Outline Sketch of its Growth and Character. By R. Coupland, C.I.E. London: British Broadcasting Corporation. Price 6d.

NEW COMPANY REGISTERED

G. M. S. PLUGS, LTD. Capital £300 in £1 shares. Under agreement with George Music. Manufacturers of and dealers in sparking plugs and other ignition apparatus for use in internal-combustion engines, manufacturers of and dealers in aeroplanes, hydroplanes, automobiles, etc. Solicitors: Boxall & Boxall, 22, Chancery Lane, W.C.2.

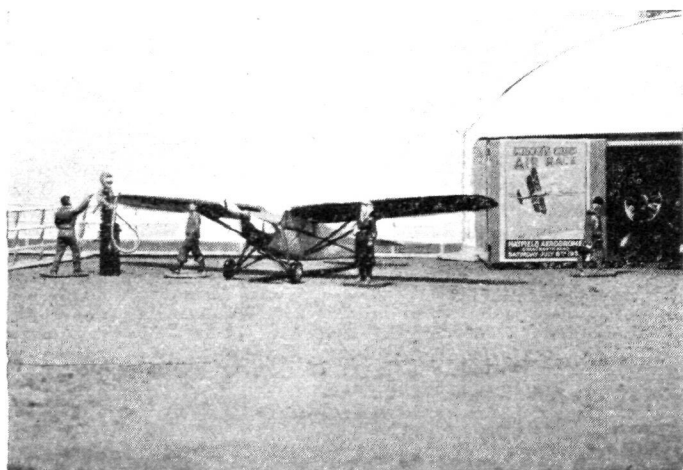
AERONAUTICAL PATENT SPECIFICATIONS

Abbreviations: Cyl. = cylinder; i.c. = internal combustion; m. = motors. (The numbers in brackets are those under which the Specification will be printed and abridged, etc.)

APPLIED FOR IN 1932

Published October 12, 1933

8,164. C. B. REDRUP. I.c. engines. (398,553.)
27,773. BENDIX AVIATION CORPORATION. Friction clutch mechanism. (398,650.)



A realistic aerodrome scene with "Skybird" models.

SKYBIRD MODELS

WE have already referred to the small "Skybird" scale models of aircraft, hangars and accessories supplied by A. Holladay & Co., Ltd., of 3, Aldermanbury Avenue, London, E.C.2, and we now have to announce the addition of another accessory for "Skybird" enthusiasts. This is a model, to the same scale as the aircraft, etc., of a Pratt's Petrol Pump. As may be seen from the illustration above, this pump is remarkably accurate—especially when it is remembered that it is only $1\frac{1}{2}$ in. high! It cannot be denied that building up a modern airport, complete with aircraft, hangars, figures, etc., with these "Skybird" models is a most fascinating hobby.

Personals.

PREPAID

(18 words or less 3/6, then 2d. per word).

To be Married.

CLUBE: ROBINS.—The engagement is announced between FLYING-OFFICER MONTAGU VICTOR MURRAY CLUBE, R.A.F., second son of Mr. and Mrs. S. E. Clube, of Wimbledon, and MARJORIE LEE, elder daughter of Mr. and Mrs. J. H. Robins, of Harrogate.

FINCH: OWEN.—A marriage has been arranged, and will shortly take place, between FLIGHT-LIEUTENANT ERIC STANLEY FINCH, R.A.F., second son of Mrs. Alfred Finch, of Orpington, Kent, and DORIS, elder daughter of the late Engineer Capt. J. A. Owen, R.N., and Mrs. Owen, Sea Mills, St. Issey, Cornwall.

Married.

DE BROKE: WREY.—On October 4, 1933, at St. Paul's, Knightsbridge, CAPTAIN LORD WILLOUGHBY DE BROKE, of Woodley House, Kington, only child of the late Lord Willoughby de Broke and of Lady Willoughby de Broke, to Miss RACHEL WREY, of The Hill, Lutterworth, daughter of the late Sir Bouchier Wrey and of Mrs. Godfrey Heseltine.

MERER: WRAY.—On October 7, 1933, at All Saints' Church, Swindon, Lincolnshire, JOHN WILLIAM FREDERIC MERER, R.A.F., eldest son of Mr. and Mrs. J. M. Merer, of Heald Green, Cheshire, to CECILY MARGARET, daughter of Major H. C. Wray, D.S.O., and Mrs. Wray, of Ling Moor, Swindon.

Births.

DALLAS-BRETT.—On October 5, 1933, at Romney Elm, Hythe, Kent, to EILEEN (née Le Breton Martin), wife of RONALD DALLAS-BRETT—a daughter.

FIELD.—On September 30, 1933, at Headquarters, London Fire Brigade, Southwark, S.E., to KATHLEEN (née Wilson), wife of FRANCIS W. FIELD, R.A.F.O.—a son.

THOMAS.—On October 1, 1933, to JOY (née MacGeorge), wife of FLIGHT LIEUTENANT H. THOMAS, R.A.F., Netheravon, Wilts.—a son. JULIAN MARCUS ("JULIAN").

Deaths.

COWDRAY.—On October 5, 1933, at 54, Mount Street, Viscount COWDRAY, age 51 years.

ROSE.—On October 1, 1933, at Drogheda, Ireland, instantaneously, following injuries sustained accidentally in an aeroplane crash, R. KINGSLEY ROSE.

STYRAN.—On October 1, 1933, CAPTAIN A. J. STYRAN, A.F.C., M.C., as the result of an accident whilst flying back from Beauvais.

MISCELLANEOUS ADVERTISEMENTS.

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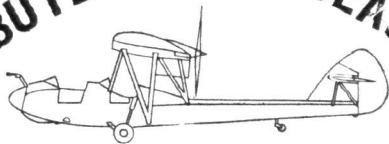
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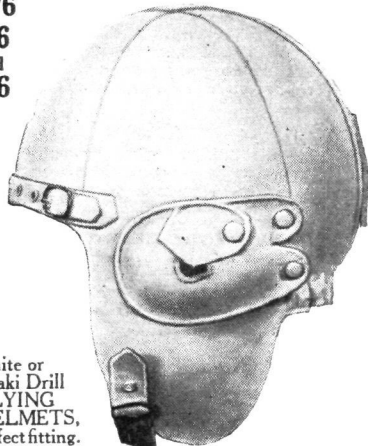
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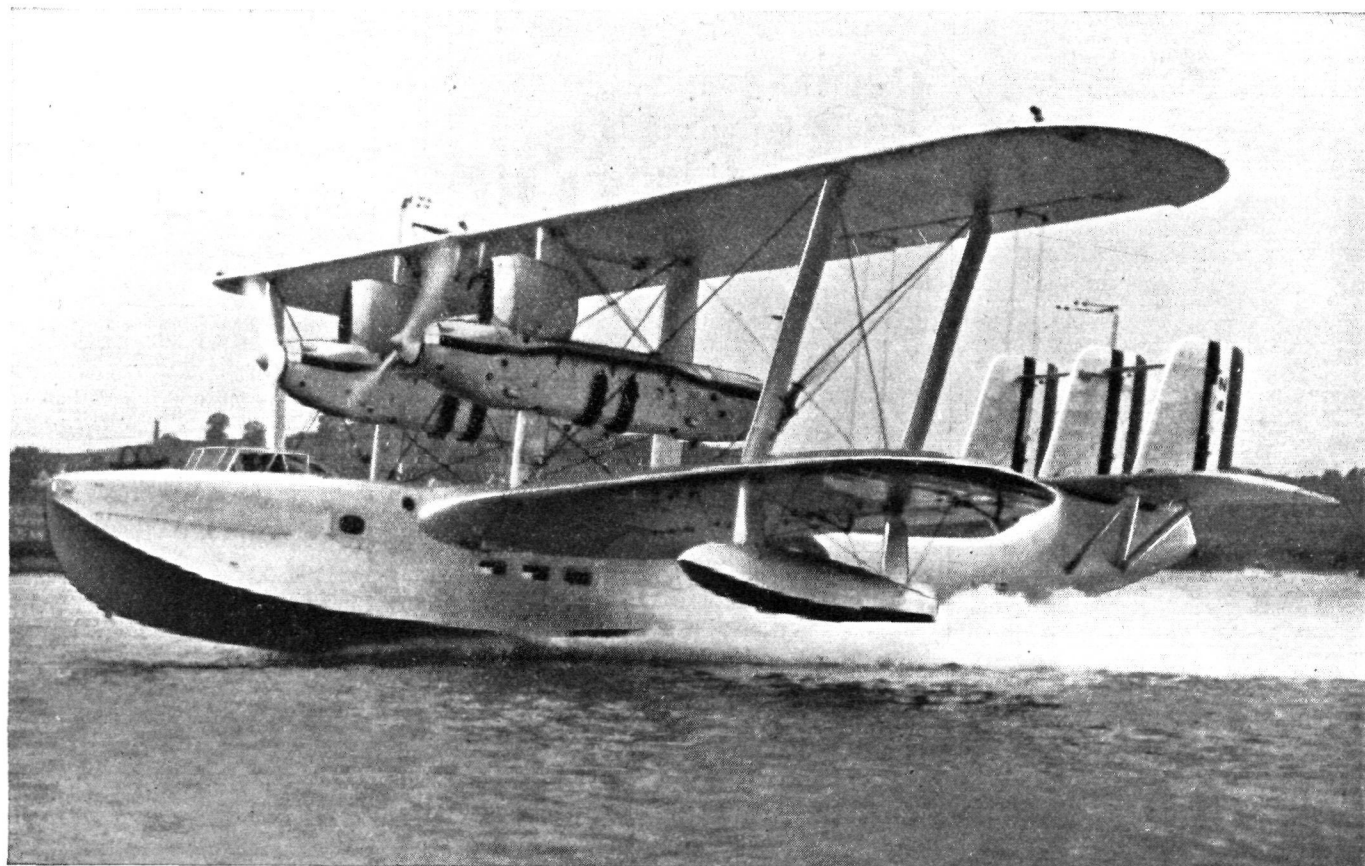
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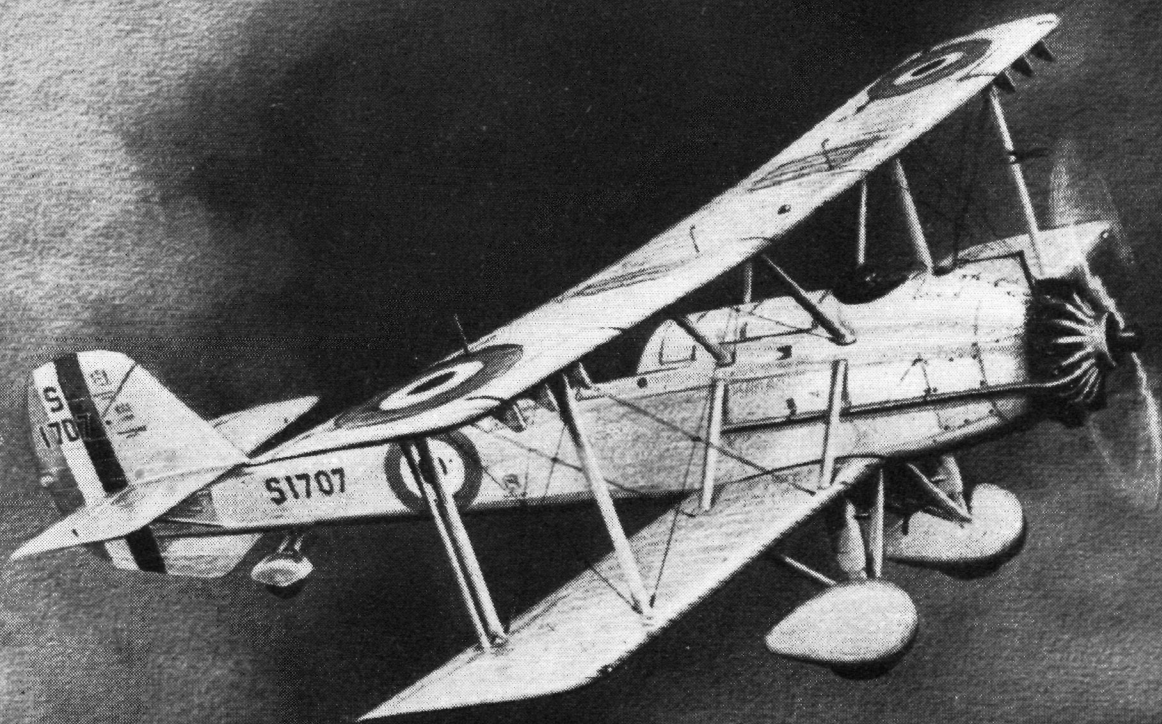
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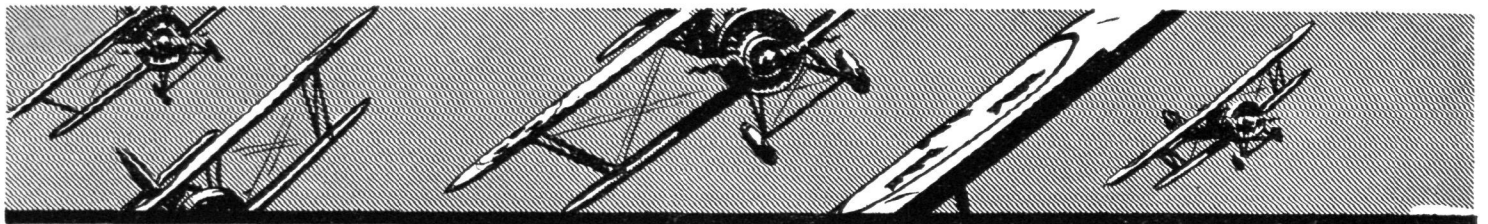
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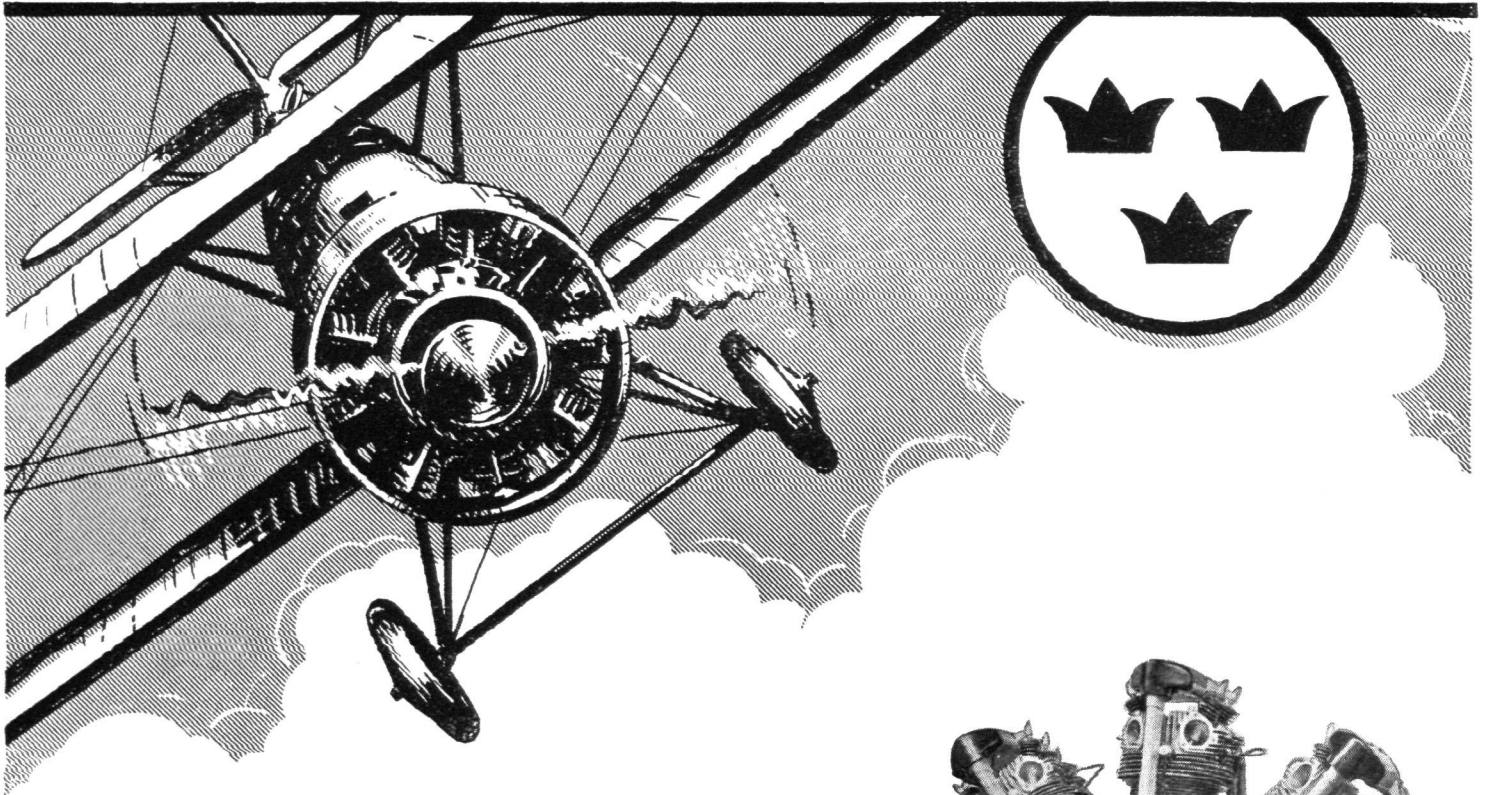
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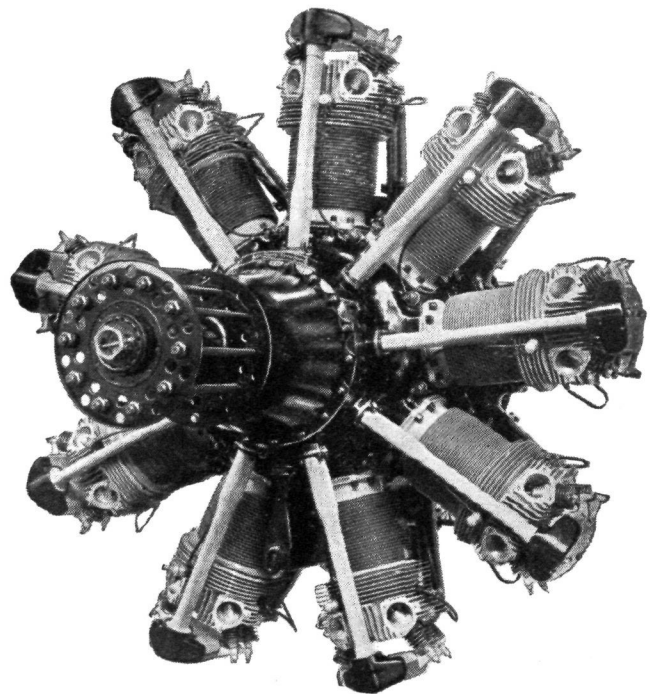


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